THE BUILDER

A Journal for the Architect & Constructor

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86TH YEAR

The Piccadilly Theatre, Sherwood Street and Denman Street, W.: View in Auditorium.

MESSRS. BERTIE CREWE and E. A. STONE, Joint Architects.

THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

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ARCHITECTS AND BRIDGES

WISDOM after the event is a quality of very little service either to the holder of it, or to those he proposes to favour with it. But the temptation to say, "I told you so" is a strong one, against which very few of us are entirely proof. It is now a matter of years since the question of Waterloo Bridge and its future treatment first came under consideration, and still longer since the question of cross-river traffic became the subject of serious thought, and one cannot help remembering that many years ago several architects arrived at the same conclusions which the engineers have just recently reported, viz., that Charing Cross Station should be removed to the south side of the river, and that the old railway bridge should give place to a new road bridge.

Since then there have been innumerable committees, conferences, panels of experts, Royal Commissions, and the voicing of a babel of private opinion, all culminating in a scheme which for many years gained little but lip service. If we are to assume that this is something more than a happy accident, it can only be that the capable architect is equipped with a vision that takes him by a short cut to much the same point at which the elaborate deliberations of duller wits arrive by the way of laborious collection of data, and exercises of logic and judgment.

We believe that the public may take this as an indication of the poor use which is made of the trained mind and vision of the architect. He is a man trained and gifted to think on broad lines, to visualise essentials without confusing details, and to present his ideas in a form that can be understood by the public. The shrewd approximation of costs, which the architect can generally arrive at, is more often near the point than the fruits of masses of measurements and calculation which the expert in affairs will undertake to arrive at the same point. Do we sufficiently often avail ourselves of this useful service? We think not. In the meantime we may congratulate ourselves that a dream which we have often enjoyed with little hope of fruition is likely to come about.

Those whose business takes them daily across the little footway by the side of Hungerford Bridge have enjoyed but one-half of the picture which an architectural treatment of this grand sweep of the river will reveal. A maze of uninspired lattice work, and the puffing and clanking of trains and coaches lends little to the atmosphere of enjoyment. One feels all the time that this monstrosity is an invasion that should never have been suffered. What wonder that Father Thames should rise up at long last and burst his banks in indignation at such outrages!

Even if we are at last to be freed, there is still much to consider and settle. There is first the question of whether this is to be a high-level or low-level bridge. Our readers know our views upon the point, and there will certainly be very little difference of opinion from an artistic point of view, if traffic experts are not of one mind. The question of cost also seems to throw additional weight upon the side of the low-level project, and we may anticipate that it will eventually gain the day.

There is another point that needs thought. We hope sincerely that the architect will be consulted from the very outset. It is almost as unsatisfactory for a purely engineering conception to be dressed up in an architectural costume as for there to be no attempt at architectural expression at all. We feel confident that the most brilliant engineer in the world would find new strength from the companionship of a man of inspired vision, and that we are far more likely to be well served if this is brought about than if the entry of the architect is delayed until the broad lines and much of the detail of construction have been definitely translated into fact.

As the natural outcome of the development of cross-river traffic comes the question of the full development of the south bank of the river, and here again there is material for wise foresight and imagination. With the County Hall an accomplished fact, and the contingent works of a new Charing Cross Bridge apparently of near approach, there are all the signs of a new river frontage of unsurpassed possibilities. A few sentimentalists may profess a regret for the loss of that accidental beauty which a chance composition of grey warehouse, wharf, tower and atmosphere undoubtedly affords us, but real civic beauty must arise out of order and tidiness, and not out of the kindness of nature that softens the ugliness of human inefficiency with her own mellow tones.

These are occasions which remind us that there are still opportunities for us to start a great new scheme in the right spirit and carry it right through to its logical conclusion. London abounds with instances where little-minded treatment has closed the door to fine effect for all time. This must not be yet another of these instances. Let us therefore make the fullest use of the architectural talent that is available to put us in the way of a fine new scheme of London town planning. We love our London, perhaps for her faults—certainly in spite of them. Let us now do our best to add to her fine qualities so that we may take pride in them rather than in her inefficiencies. And these things must be approached more directly and with less of the wearisome and almost endless circumspection which we are in the habit of applying to them. The object lesson is there for us to learn.

The matter of Waterloo Bridge is of a less hopeful character, and it is indeed the irony of fate for lovers of beauty that the same voice that blesses the scheme that would create a worthy standpoint from which to delight in the graceful lines and superb proportion of light to shade of Waterloo Bridge, should condemn it to what must at least destroy something of its present beauty. In this matter we must tread warily and not discount proofs of the rightness of artistic vision with an unintelligent obstruction of the free development of London. We must content ourselves with a fervent hope that London's needs may be reconciled to the retention of Waterloo Bridge in its present glorious form. And we must fortify ourselves with the faith that, if it be proved that London's needs will be seriously prejudiced if this work of art remains, the age is not so barren of talent that a worthy successor to the great Rennie may not yet come forward. It is no small matter to arrive at that just balance between a love of beauty that has completed its purpose and the creation of fresh beauty that is to serve a fresh purpose. We believe that Waterloo Bridge as we know it has still a useful term of years to serve. If this is indeed so, we may thank the gods that an old friend is to remain with us. But if it be found that the traffic of London is suffering under an obstruction, then we shall have to find a way of hardening our hearts, for the tide of time sweeps us along, much as we may wish to dwell awhile in contemplation. We can but hope and work for the best. [We deal this week in one of our Notes with the question of widening Waterloo Bridge.]

NOTES

Architecture at the Royal Academy. The architectural room at the Royal Academy is as a whole one of the poorest we remember for some time. The designs are not helped as a rule by the methods of their illustrations, owing either to highly coloured, tightly handled views, or indeterminate, scratchy drawing. Sir Giles Scott shows a fine church exterior, Sir Edwin Lutyens his Washington Embassy, Sir Herbert Baker his new India office, and Sir Reginald Blomfield his Lambeth Bridge. Mr. Guy Dawber has a good illustration of his excellent hostel at the Lord Wandsworth Agricultural College. A view of Messrs. Niven and Wigglesworth's Hambro Bank, three interiors of pleasing, simple work illustrating the Midland Bank, Ltd., by Messrs. Gotch and Sanders and Sir Edwin Lutyens, the fine Westminster Bank interior by Messrs. Mewes and Davis, the South African Reserve Bank by Sir Herbert Baker, the admirable accepted design for the Peterborough Town Hall by Mr. E. B. Webber, the palace at Jodhpur, India, by Messrs. Lanchester, Lucas and Lodge, and the Stowe School Chapel, showing organ case, by Sir Robert Lorimer, are amongst the more noticeable drawings. Fortunately, the gallery is not crowded with oversized models, but the arrangement of a couple of screens would have enabled several more drawings to be hung as the rejection of really good subjects is more inexplicable than ever.

A Pleasing Recognition. We are glad to note that the Committee of Lloyd's at their meeting last week elected Sir Edwin Cooper an honorary member of Lloyd's in recognition of his work as architect of the new building and as a mark of their appreciation of the great services he has rendered to the Corporation. Such a distinction must be especially gratifying to Sir Edwin, as it is the highest within the power of the Committee to bestow and has been conferred on only eighteen individuals since the first honorary election in 1824. Sir Edwin is not the first architect to receive this honour as Sir William Tite was the recipient in 1845. Other distinguished men elected since the war include Signor Marconi, Lord Beatty, the late Lord Haig and the late Sir Doveton Sturdee. Architects do not always—perhaps very rarely—receive proper appreciation from their clients of the services they render and it is pleasing to put on record such testimony of a client's appreciation, following as it does the recent tribute of His Majesty the King to Sir Edwin Cooper's great work.

An Old Chair in Haseuilly Church.

Waterloo Bridge. We note that the engineers who have reported to the Prime Minister on the Charing Cross Bridge problem, recommend, as part of their scheme, the widening of Waterloo Bridge, but it is to be seriously doubted whether widening is either desirable or necessary. Even at its present width (before the temporary bridge was built) the volume of traffic that Waterloo Bridge discharged at either end was more than could be accommodated by its outlets. Both at the Strand and the York-road-Stamford-street intersections it is the normal thing to find traffic jams of considerable length. On one occasion recently the hold-up of traffic on the north side extended as far as half-way across the bridge. It is clear that any widening of the bridge must be accompanied by a remodelling of the outlets at either end, especially at the Strand intersection, where tunnelling under the existing roadway might even become necessary if any great increase of traffic were to be concentrated at this spot. We hope that this point of traffic congestion will receive serious consideration before any scheme is adopted involving the widening of Waterloo Bridge. It should not be forgotten that with a new bridge at Charing Cross the pressure on Waterloo Bridge would be greatly relieved and the latter would at once become more than adequate to the demands made upon it.

The Hope for Waterloo and Charing Cross. The chairman of the London Society has naturally expressed his pleasure with the definite prospects now before us for the removal of Charing Cross Railway Bridge to the South side and the retention of Waterloo Bridge.

Madame Tussaud's, Baker Street, W.: Entrance Hall.

Mr. F. Edward Jones, F.R.I.B.A., Architect.

Candelabra.
From a Sketch by C. R. Cockerell.

We have shown in our pages how the extra width to Waterloo Bridge for four lines of traffic can be so managed, if necessary, as practically to make no jarring note on the general design, and, in fact, so that the alteration would hardly be realised. Again and again we have pointed out what an added dignity of effect would be afforded to the approach of foreigners to London if a fine station on the South side formed the terminating feature of a fine new road bridge at Charing Cross. "Is it possible to conceive a more magnificent entry into London than across this new bridge? Imagine what an impression it would make upon the thousands of travellers who arrive at Waterloo from overseas—on their leaving the station and reaching the opening to the new bridge the view would be of surpassing grandeur; on the right, Waterloo Bridge, Somerset House, the dome of St. Paul's and the Embankment Gardens; on the left, the Houses of Parliament, with the towers of the Abbey and the fine buildings on that side." This letter by Mr. Carmichael Thomas expresses what we all feel, but it leaves open the pitful of trouble which may arise unless the new bridge and its approaches are to be formed under the best architectural advice.

The Newcastle-upon-Tyne Society.

The Newcastle-upon-Tyne Society, the aim of which is to promote a wider concern for the beauty, historical interest, amenity, healthfulness and development of the city and neighbourhood, appear to be doing some useful work, judging from their fourth annual report just issued. The society strongly advise that outside, independent, expert opinion should be sought in regard to a site for the new municipal buildings.

The society has been actively engaged during the past year in keeping before the City Authorities and the citizens generally the unique value of the historic monuments within the city bounds, and the need for their more careful preservation. It has also suggested the desirability of clearing a zone around the Castle and Black Gate, and also round the West Walls, by the removal of old decayed buildings and rubbish heaps; insisting that "injury" to an historic building may be æsthetic as well as physical.

Street Accidents.

In our note on this subject last week a passage was accidentally omitted. The point we wished to emphasise was that while in 1926 there were 5,329 persons killed and 148,575 injured in street accidents, in 1904, when horse-drawn vehicles were the rule and not the exception, the number of street accidents, known to the police, to persons either fatal or non-fatal was but 7,921.

The Founder of Letchworth.

A very remarkable career was that of Sir Ebenezer Howard, O.B.E., who died on Tuesday at the age of 78. Fame came to him towards the end of a long life devoted principally to law and parliamentary reporting, through an achievement which at first sight is difficult to link up with his profession. The idea of laying out garden cities lay crystallising in his mind from 1880 onwards when he read Edward Bellamy's "Looking Backward," and in 1898 his own "To-morrow" appeared, to be followed in the next year by the founding of the first garden city at Letchworth—the first step towards decentralising industry and the re-population of the countryside. The success of Letchworth was followed up in 1919 by Welwyn Garden City. In Sir Ebenezer, town planning has lost one of its most practically-minded exponents and advocates.

A General View of New York City.

(*See page* 781.)

GENERAL NEWS

Professional Announcements.

We learn that Mr. Vivian Saunders, late of Messrs. Healing & Overbury, of Cheltenham, has set himself up in practice as a quantity surveyor at Marshall's-chambers, 4, Clarence-street, Cheltenham, where he will be glad to receive trade catalogues, etc.

In succession to Mr. A. G. D. Grant—recently appointed burgh surveyor of Girvan, Ayrshire—Mr. John Milne has been made burgh surveyor and water engineer at Lossiemouth.

The Washington Embassy.

In the House of Commons recently, Mr. W. Thorne asked the Under Secre- representing the First Commissioner of Works, if he was aware that the Washington Building Trades Defence Association had instructed local trade unionists to boycott British goods, owing to the action of the British Government in refusing to recognise the building trade conditions of that city in respect to the new embassy; and whether there was any clause in the building contract which made it obligatory on the contractor to recognise trade union rates and hours of labour, in accordance with conditions recognised by employers and trade unions in Washington, D.C.

Sir Vivian Henderson said that the answer to both parts of the question was in the affirmative.

Wimbledon Municipal Buildings.

An inquiry was held recently by Mr. H. E. Bryne, Inspector of the Ministry of Health, into the application of Wimbledon Town Council for sanction to borrow £145,000 for the erection of a new town hall and municipal buildings.

Evidence of the need for new municipal buildings and a town hall was given by Alderman Shirl Mussell, chairman of the New Municipal Buildings Sub-committee, the Mayor (Alderman A. W. Hickmott), and Alderman G. Clement.

Mr. S. E. Pocock put in a petition against the scheme, said to have been signed by over 200 North Wimbledon ratepayers. Mr. William Ewart Smith, 25, Thornton-hill, and Mr. A. Kasslacher, 9, Thornton-hill, were called and gave evidence in connection with the petition. The former said that 90 per cent. of the people he called upon signed the petition willingly, and the latter stated that only four or five people out of over 100 refused their signatures.

Hampton Court: Reopening of Great Hall.

The Great Hall of Hampton Court was re-opened on May 1. This ancient and beautiful chamber, begun by Henry VIII immediately after the death of Wolsey and finished in 1536, was closed for repair six years ago on the discovery that the ravages of the death-watch beetle had dangerously weakened the single hammer-beam roof.

Town Planning.

We have received from the Ministry of Health a copy of a statement showing the position of town-planning schemes in England and Wales at March 31, 1928. From this it is apparent that although a great amount of preliminary work has been done, the number of schemes which have become operative are comparatively few.

The Rome Scholarships.

The Council of the British School at Rome has announced the following awards for 1928:—

Rome Scholarship in Decorative Painting.—Mr. Alan E. Sorrell, student of the Royal College of Art.

Rome Scholarship in Sculpture.—Mr. Cecil Brown, student of the Royal College of Art.

Rome Scholarship in Engraving.—Mr. Eric S. Jones, student of the Royal College of Art.

Lincoln Cathedral.

Lord Yarborough presided at a meeting of the Executive Committee of the Lincoln Cathedral Repairs Fund, at which it was reported that since October £6,234 had been received from England and £2,176 from America, the latter for the centre tower only. The total of all the funds to date was £88,884, and the total amount already spent £81,133.

The clerk of the works reported in regard to the south-west tower that the first tier of vertical reinforced concrete piers, 12 in number, and 16 ft. in height, constructed on the inner wall faces of the ringing chamber, 79 ft. to 95 ft. above the ground-floor level, had been completed this week. The reinforcement of each of these vertical piers is constructed (including concrete) to resist a breaking strain of not less than 68 tons. The repairs in the clock chamber in the centre tower were progressing quite satisfactorily, and final grouting operations were taking place. All the cracked masonry of the wall faces had been made good with new bonding stones, and it was hoped to have the work on this chamber completed by June.

National Physical Laboratory.

The Report of the National Physical Laboratory for the year 1927 has been issued by H.M. Stationery Office, price 7s. 6d. net.

The Memorial to Queen Alexandra.

The King has approved the design prepared by Mr. Alfred Gilbert for the visible memorial to Queen Alexandra to be erected on a site adjacent to Marlborough House and facing Friary-court, St. James' Palace. A portion of the garden wall will be recessed, and a group in bronze will be erected typifying Faith, Hope and Charity, as virtues closely identified with the late Queen.

Architectural Advice for Builders: The Panel Scheme.

In order to save our natural beauties from being spoilt by ugly villas and bungalows, Mr. Chamberlain, the Minister of Health, recently commended a proposal made to set up panels of architects who might assist speculative builders and others concerned with building. He pointed out that technical advice on questions of proportion, the use of materials and of colour could do much to prevent unnecessary disfigurement. Unfortunately, says a correspondent of the *Times*, difficulties are arising with regard to the establishment of the proposed panels. The Royal Institute of British Architects has consulted with its allied societies as to whether the scheme is practicable. It is understood that the societies generally, while sympathetic to any proposals for bringing about closer co-operation between builders and architects, consider that the difficulties in working a panel scheme are very great, and some are reluctant even to make the attempt. The Manchester and Liverpool Societies, however, are investigating the matter further. They are attempting to define a "speculative building" and to draft working rules with a view to helping builders to receive expert advice. It is hoped that they may succeed in forming a bridge between architects and builders.

Madame Tussaud's, Baker Street, W.: Hall of Tableaux.

MR. F. EDWARD JONES, F.R.I.B.A., Architect.

MODERN GERMAN ARCHITECTURE.

DR. WERNER HEGEMANN, of Berlin, was the lecturer at a meeting of the Architectural Association on Monday evening; his subject was "Modern German Architecture."

Before the lecture, the President, Mr Gilbert H. Jenkins, F.R.I.B.A., announced that there were six nominations for membership, and the following new members were elected:—Mr. F. J. Sweeten, Mr. John Greaves, Mr. John C. Harkness, Mr. N. J. S. White.

The nominations for the House List for the Session 1928-29 was read, and scrutineers appointed.

DR. HEGEMANN then gave his address (illustrated with a number of lantern slides) in which he said he had heard it said that really there should be no building in Germany at all just now, and that Germany should be concentrating on repayment of debt rather than on spending money on building. But he did not think that was a reasonable criticism, for if a population of over 60 millions were to live and produce enormous sums for debt redemption it was necessary to carry out a great deal of building work. A considerable concentration of population was taking place in the large cities, with consequent housing difficulties. Since the war the population of Berlin had increased by thirty or forty thousand, and these people had to be housed and to be provided with amusement, so cinemas had to be built for them. Also, people were crowding into the big cities from the lost provinces, and that resulted in a shifting of industries and the necessity for industrial building; and new industries had to be developed in order to help repay the war debt. What had been done already in the direction of new building was far from sufficient for the needs of the country, but much of it was interesting, and some of it startling.

A prominent German writer had said that riding down Frederickstrasse or Oxford-street was to him like listening to Beethoven's Ninth Symphony. He once quoted that to an Englishman, who replied: "You writers would not say that about new Regent-street or Kingsway"; but he (the lecturer) did not quite understand why that should be so, unless it was because much of Regent-street and Kingsway had been built by architects who were not members of the Royal Institute of British Architects or the Architectural Association! He was inclined to think that in modern architecture in any country there was a lack of understanding; without understanding there could be no harmony, and without harmony, art was not possible. It had been said that harmony and uniformity were not needed nowadays, and that individual expression was to be preferred. If Beethoven's Symphony were played by an orchestra of 60 or 70 performers, who each followed his own ideas, the result might be interesting, but it would not be art. He felt that in every country, and in Regent-street and Kingsway, architects were too much inclined to do what they pleased, without regard to their neighbours. To his mind, it was necessary to get again a body of architects with sufficient understanding of each other, so that they would work together and produce something that was not necessarily as strictly uniform as the streets of Bath, but which at least would have some sense of cohesion. They had learnt to sneer at everything written by men like Ruskin, but a great deal of Ruskin's writings had a solid foundation. He entirely agreed with Ruskin when he said it was a comparatively small thing that people united in the worship of God and built a cathedral that was an expression of beauty, but it was a much greater thing that people should unite in street architecture and submit their individual aspirations to one great spirit and build a street in which one felt there was harmony and uniformity—that was, uniformity in the best sense of the word.

In describing the slides, the lecturer particularly dwelt on the feeling for either strong verticality or strong horizontality to be seen in the designs of the very modernist German architecture, and explained how the attempts to produce these effects often resulted in bad structural devices. In the design of departmental stores the cry had been "Light, more light, and still more light," with the result that the façades were practically all glass. In the result, however, it had been found that too much light was admitted for the purpose of the building owner in exhibiting his goods, and they found in many buildings that the window space was partly blanketed by partitions erected inside in order to keep out the light. In another case, the craze for light had resulted in a building with windows where it was quite impossible to clean them, and the elevation presented a mottled appearance of clean and unclean glass.

Most of these new buildings were colossal in scale, and much as one might admire their design as buildings, they were out of place in a street 60 or 70 ft. wide. In that connection he recalled a New Year card he had received from Dr. Raymond Unwin, on which was printed, "Let them be simple in their homes and splendid in their public ways"; it seemed to him that that quotation should be applied to architecture. There were two scales: the public scale and the private scale. If the public, or big, scale were to be applied to every private building, what were they going to do with the public building? A slide was shown of a church, built in 1860 and carrying on the classic tradition, against which a new building had been erected. The church had been built by a contractor without any interference from architects; the new building had been designed by a modern German architect who had got the notion of high Gothic vertical lines, and thought it an æsthetic necessity to introduce them on a scale stronger than most streets could bear. One result of the craze for verticality was vast expanses of vertical glass in façades so arranged to give the impression that each story was of tremendous height, with no indication on the façade to show where each floor was erected; but he thought it should be acknowledged that most men were less than 6 ft. in height, and did not live and work in cathedrals 150 ft. high, but in floors 10 or 15 ft. high.

He recalled that 20 years ago he was very proud of a certain building designed on an enormous vertical scale. He thought it set a new standard, and did not understand why other countries did not copy it; but now he realised that England was a conservative country—and was copying it 20 years late!

Commenting on another slide, the lecturer said the opinion had been expressed: "How beautiful it would be if the entire Oxford-street were laid with a continuous repetition of the elevation of Selfridges on one side and by buildings designed by Lyons on the other!" But a street like Oxford-street did not need such a big scale as the Selfridge store, and in any case, if such a big scale were adopted it should be the same on both sides of the street.

He had a great respect for many modern architects, and the previous day he had visited a building done by an architect for whom he had the utmost respect and the greatest admiration. That was Britannic House, Finsbury, by Sir Edwin Lutyens, and there he found to his surprise that in the upper part of the building the floors were to be seen from outside behind the windows. There were huge windows, behind each of which two stories were stowed away. It made him very unhappy. The building looked like a traditional design, but was not such treatment a violation of all they had learnt to be good architecture? How were they ever to come to an understanding of what was good architecture if the architects whom they respected did that kind of thing? And if there was no understanding as to what was right and what was wrong, how could they ever expect to get decent cities?

The last slides showed some of the latest housing schemes, generally blocks of from three to five stories arranged around an open space. There were, he said, 100,000 tenement buildings in Berlin.

Mr. W. H. Ansell proposed a vote of thanks, and said that scale was a thing that even an architect often neglected. There was, for instance, a building now going up in Gray's Inn-square which consisted of very charming domestic buildings. Some of these houses had been pulled down to make room for a library which was entirely out of scale with everything else in the square. No doubt the new building looked very well on the scale drawings, but as erected it entirely spoilt the rest of the square.

Dr. Raymond Unwin seconded the motion. He said he was inclined to express his sincere thanks to the architects on the Continent for conducting the kind of experiments they had seen on the slides. He thought a big enough view of architecture was not always taken. Such great buildings might perhaps be justified for exhibition purposes where one desired to strike a note of novelty, but architecture was not a temporary art. Architecture was not the design of buildings in any one generation, but it grew up through the centuries. For a very short period architects contributed a few buildings, and then passed on. There must be some degree of unity running through all the buildings of a street; to have real beauty the buildings must all be linked together by something that brought them all into variations of the same theme. The theme must be there and a unity must be maintained throughout if there were to be beauty.

Mr. H. V. Lanchester said he would like to say a word in connection with the lecturer's somewhat depreciatory remarks on Baroque. In one of the slides he had drawn attention to certain features of a building, but the Baroque features were in his opinion definitely the best. They seemed to have some architectural vitality, but were passed over by the lecturer as something not to be observed. Baroque was not generally applicable to present-day architecture for a variety of reasons, but it had extraordinary imaginative qualities.

A brief reply by Mr. Hegemann concluded the meeting at 11 p.m. It was the best attended meeting the Association has had this session, the large room being entirely filled.

Welsh Architect's Death.

We regret to record the death, as a result of injuries received on April 9 in a motor-car accident, of Mr. W. R. John, architect and surveyor, Landore, Swansea, at the Brecon County Hospital, on April 21. Mr. John, who was 33 years of age, had been in partnership with Mr. D. Clydach Thomas, of Swansea.

L

THE REPAIR OF ANCIENT BUILDINGS

XVIII

By A. R. POWYS, A.R.I.B.A.

FLAGSTAFFS ON TOWERS.

A flagpole stayed from a turret or from the battlements of a tower will loosen and damage the masonry to which it is attached. When this arrangement exists it should be altered and better fixing provided from well within the tower. In the photographs of Kingston Church tower, Somerset, it will be seen that the flagpole was fixed in the way condemned here, and that it is now refixed as it should be. Apart from the damage done by a flagpole when stayed from battlements, it cannot be conveniently lowered, and such an arrangement makes it difficult and awkward to repaint the pole or to repair a broken flag-cord.

The method which has been found satisfactory in all respects is to fix the flagpole to a central staypost with iron holdfasts that can be removed by the removal of a nut. One holdfast is set near the top of the staypost and one just above the roof. When a pole is so arranged it is easy to lower it for repairs or painting. It is, however, the provision and fixing of the staypost which requires special care and attention. This post should be about 6 in. sq. of English oak. It should stand at least 6 ft. above the roof, and should descend at least 6 ft. below the roof beams. The weight of the post may be taken at its very foot by a stout oak beam spanning right across the tower from wall to wall, or it may be taken by a central roof beam. If the weight is taken at the roof level, the bottom end of the staypost may be held upright by iron tie-rods anchored in the four walls of the tower, or by diagonal bracing struts springing from the foot of the staypost to the roof timbers. In a church tower a beam at the level of the foot of the staypost is, however, often useful to take tackle for raising and lowering the bells. The junction of such a staypost with the roof is often a point where slight leaks occur. It is usual to turn the lead sheets of which the roof is made up to 3 in. or so, and to close-nail a lead flashing above this on to the staypost. A more permanent way to secure this joint is to cover the staypost with lead or copper, and in this case the iron holdfasts are fixed after the lead is put on. Precautions, however, must be taken to shield the lead from the action of the tannic acid in oak.

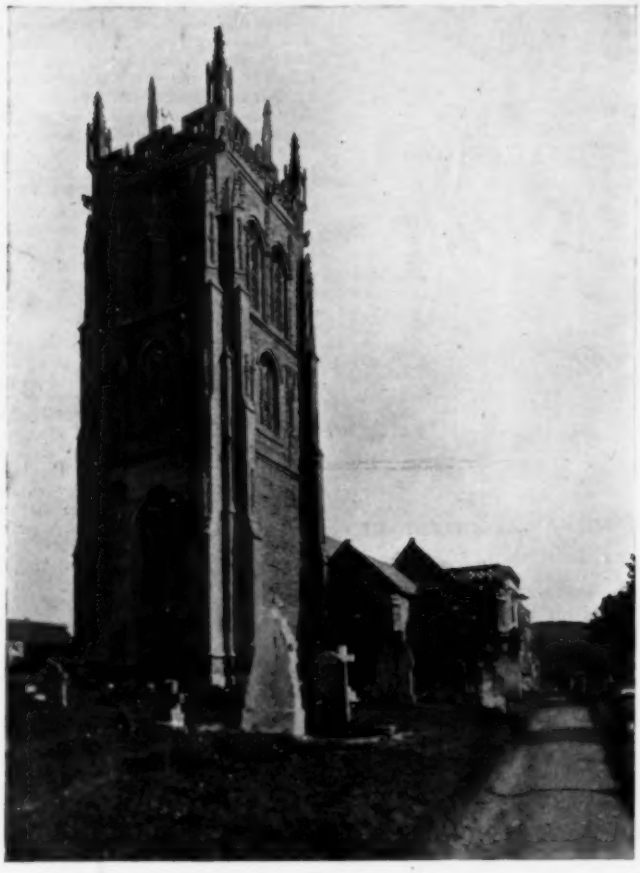

Fig. 27.—Kingston Church, Somerset.

SOME NOTES ABOUT FLOORS.

The repair of the timber-joist floors is like that of timber roofs, and there is but little else to be said of other floors in ancient buildings than what is to be found in books on building construction. I remember seeing the late Mr. Gimson lay a new floor in the dining-room at Sheffield Park. It was a beautiful piece of work when finished. He used fine wide boards, thoroughly seasoned; some of them were cut from a tree which tapered more than usual, and these he laid together with the butt ends reversed. This floor had a proper air space beneath, and all the boards were painted two or three coats with red lead paint on the underside. Except that every precaution was taken to make the floor a good one and that great care was taken in laying it, it did not differ from others, but the greater beauty of the finished work was very marked.

The floors of old buildings are often out of true level, and this fact is one which gives a sense of age more quickly, yet less obviously, than almost any other feature. Except where a truly level floor is desired for particular pur-

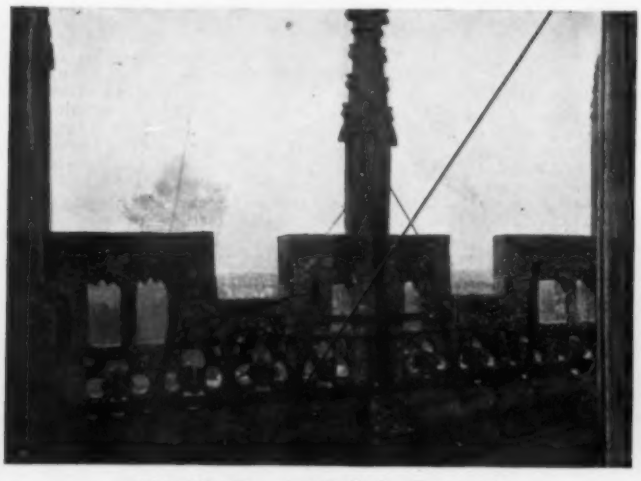

Fig. 28.—Parapet Split by Ironwork.

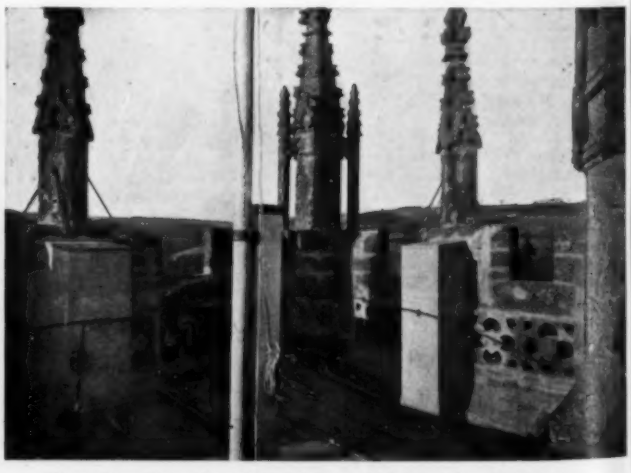

Fig. 29.—Parapet after Repair; Ironwork removed and Gunmetal Substituted.

KINGSTON CHURCH TOWER, SOMERSET.

poses, there is no need to disturb such irregularities. The timber floors of an old house are usually floored with wide oak boards, which are commonly rebated. It is often found that the upper rebate has worn away or has been split off, or that the joint between board and board is open. In such a case it is a good plan to caulk the joint, as are those on a ship's deck.

In churches, when the paving is laid direct on the earth or when boarding under pews is laid on joists placed on the ground, it is usually but not always desirable that they should be taken up and relaid. In relaying old paving, the stones should be preserved and relaid in exactly the same positions as they are found. With this in view, the stones should be marked and a plan made of their arrangement, before they are raised. Cracked stones can be relaid, for such defects are little disadvantage to a floor that is properly set on a solid concrete bed. Sometimes badly worn stones may be reversed. Old memorial slabs should be relaid exactly where they are found, unless it is certainly known that they have been moved before, and their original position cannot be ascertained. Old paving tiles and brick, once the common product of a district, should also be preserved for re-use, for others of like kind are now difficult to obtain. They belong to a different tradition of tile-making from that followed to-day. When it is decided to relay the whole floor in a church or other large hall, after making notes of what exists, the floor covering may be raised and set aside for re-use. The area then should be excavated and covered completely with 6 in. of clean hard-core broken to the size of ordinary road metalling. On this the concrete may be laid to the required levels. The concrete should be sound Portland cement concrete mixed as is usual for modern work. It is good practice to lay the paving stones and tiles in cement mortar, but to point them in lime mortar, since the latter material accords with the old custom. When such a floor is being relaid, encaustic tiles made in the nineteenth century may be disposed of, and other paving more like the older kind may be used instead. The original floor and step levels should be carefully studied, and, if practicable, recovered; especially is this the case in churches. Sometimes, however, an arrangement that is later than that of the building itself has marked individual interest and should be preserved for its own sake. While excavation is being made for the new hard core and concrete, the surface ground should be sifted, or otherwise carefully examined, for interesting pieces of old glass and other objects of art are commonly found in the top layers of earth there.

For flooring, a solid boarded floor, and preferably one of well-seasoned oak, chestnut, or other hard wood, is recommended by the Society for the Protection of Ancient Buildings. Such floors can, if proper care be taken, be laid in mastic, just as are wood blocks, but, in addition, the boards must be nailed to clean breeze concrete, or better, to breeze concrete joists, laid in the concrete underfloor. It is well, however, to leave the concrete under-floor longer to dry out than is usual before a wood-block floor is laid on it; for, unless this precaution is taken, the boarding is apt to swell when laid and later to shrink badly. A year is not too long to wait, and in the meantime the concrete floor will serve. In a monumental building, time should be regarded in relation to the building, and not to the span of a man's life.

Where boarding is laid on joists above concrete, proper ventilation beneath it should, of course, be provided, and the concrete is best laid on hard core, as above described.

The Kasr-el-Aini Hospital, Egypt.

The Minister of Public Works to the Egyptian Government has this week signed a contract with Messrs. Nicholas & Dixon-Spain, FF.R.I.B.A., 19, Hanover-square, W.1, authorising them to draw up the detailed plans and specifications for the new Kasr-el-Aini Hospital and the Faculty of Medicine. The cost is estimated at about £1,000,000.

"THE BUILDER" DEBATE

V.—EXAMINERS FROM THE EXAMINED.

SIR,—It is fatal to become a slave to a rule when expedience suggests that the breaking of it is for the common good. It is surely agreed that the gentlemen now on the board of examiners at the R.I.B.A are doing their work conscientiously and efficiently, including those who fall under the ban of the legal purists. If not, let us be quite frank and have a personal complaint rather than this hiding behind an imagined breach of an imagined rule. If there is not a personal complaint, what is this all about? I imagine that all we want is an efficient board of examiners, and that if we have got it that is all there is to it.

Will "Positive," or will your correspondent "Architect," or any others who are inclined to support them, have the courage to assert that if it were proposed to appoint Sir Edwin Lutyens, R.A., to the board of examiners, they would lodge a protest against such a step? "Positive" may enslave himself to his much-vaunted consistency and say that he would lodge the protest, though I reserve myself the right to doubt his word in that case. But presuming he did, what an absurdity!

Here is a man who is deemed fit to design the chief building of a capital city, who gripped the imagination of a nation with his conception of a national War Memorial, who has built up masterpiece after masterpiece of domestic architecture all over the country—and yet he is to be ruled out as unfitted to say which young man is likely to be a good architect and which a bad. The idea is quite Gilbertian.

Personally I cannot see how a legitimate complaint against the ex-Licentiate examiner can possibly be made without a similar complaint against the actual existence of the Licentiate class. It is admitted that this class is purely a temporary one, but if we are living in times when such temporary measures are necessary, why should not the same element of compromise be admitted into the composition of the board of examiners? If the principle be conceded, that certain men who were trained in times when the passing of examinations was not considered absolutely essential, are yet so able that the Institute cannot permit them to remain without their ranks, why should they be denied the right to assist in testing recruits? Surely their very presence on the board of examiners is an admission that they assent to the examination system. Their mode of qualification is not a slur on their ability (for how have they gained election to this learned society if they are not up to standard?) but rather a sign of the former insufficiency of the Institute. You cannot have it both ways. Either the Institute has admitted a number of incompetents, and is therefore collecting a vast number of guineas annually under false pretences, or their members respond to a certain standard of ability, in which case they are all potential examiners.

To be quite frank, we should be thankful that a disinterested collateral influence has been introduced into Institute policy by the recent broadening of its ranks. In this debating column I noticed some time ago that a correspondent remarked on the danger of the schools producing nothing but teachers. There is a similar danger of examinations producing nothing but type examinees. A system that progresses by doing catherine-wheels is not likely to be able to see very clearly where it is progressing.

Therefore, I say that we should welcome a little fresh blood from without the common round. Eventually "Positive" will have his way, and because the Institute will have become entirely recruited by examination, his Board will have become entirely composed of the examined class. But now is the time of temporary measures, and if he is content to suffer it in the one case, I can see no logical reason why he should not do so in the other.

I would ask him these questions:—

(1) Are men allowed the designation of "Licentiate" as a mark of ability, or merely as an excuse for collecting additional subscriptions?

(2) If as a mark of ability, is a Licentiate definitely graded as of less ability than any Associate?

(3) If a Licentiate may be of equal ability to an Associate as an architect in practice, must he of necessity be a less able examiner?

(4) Would he prefer a board composed of incompetent Associate examiners to one composed of competent Licentiate examiners?

NEGATIVE.

CORRESPONDENCE

Repair of Ancient Buildings.

SIR,—In the interesting series of articles on the Repair of Ancient Buildings, Mr. A. R. Powys, A.R.I.B.A., has lately dealt with pointing and mortar joints, and he gives several very good recipes for making mortar. In re-pointing churches one finds that mastic is frequently recommended for pointing joints, not of steeples only but also for the walling. Will Mr. Powys kindly give us his opinion of the advisability or otherwise of doing this? CHURCH RESTORER.

Modernism in Architecture.

SIR,—If I am offending against the rules of debate by continuing it after I am presumed to have "had my say," "Positive" will forgive me if he considers how provoking he has been.

I should like to say that I dislike the new Regent-street and love the old as much as "Positive" does; but I do not regard it as a typical example of modern design. No style of architecture could possibly reproduce the surprising comeliness of the original street if the skyline were raised to its present permitted limit. No group of artists could repeat the unanimity of the old street unless they were co-ordinated in their efforts. These, and not the question of columns or pediments, are the root causes of the medley.

Next, it is not that I deny that the present age is unique in the world's history, but I assert that every age, as it has come or will come, has been or will be unique in the world's history. "History," says "Positive," "goes to prove that a change in the style of architecture is bound to come in this generation." Yes, it is bound to *come*, but it will not be *forced*.

"Positive" seems keen on "labels." I do not care whether a style is called "Georgian" or "Timbuctese." All I say is that if design demands an orderly arrangement of dignified sash windows in a brick front, what is there against it? NEGATIVE.

Sun or Moon for Workers?

SIR,—Much public attention is now being directed to the highly successful demonstration in the pithead clinic at the Sherwood Colliery, Mansfield, of artificial sunlight baths for miners.

An experience, which has just been brought to my notice, of the industrial value above ground of complete real sunlight is therefore interesting at the moment. Last March Messrs. Ferranti equipped a large extension of their electrical and general engineering works at Hollinwood in Lancashire with 33,000 square feet of vitaglass admitting the ultra-violet as well as all the other rays of the sun direct to the workers at their benches, and they have now had an opportunity of noting the effects. The particular shop is declared to be notably brighter and warmer, its occupants are manifestly content and happy.

Who will put a limit to the results in a generation's time of these efforts to bring the real sun to workers within its reach and to create artificial sunlight for those who toil where windows are not? A worker who is given the sun will not cry for the moon.

C. W. SALEEBY,
M.D., F.Z.S., F.R.S.E.

MODERN FLATS IN LONDON

By F. E. BENNETT, A.R.I.B.A.

IV.—REVISION OF THE BUILDING LAWS.

It has become imperative that the severity of some of our building laws should be relaxed. Regulations which were made for a past generation, and which were then most necessary and wise, are now becoming cumbersome and obstructive. While the rigid enforcement of the old laws has produced in London a standard of building work probably as high as in any other city in the world, there is no justification for the assumption that these laws remain perfectly satisfactory for present and future requirements. Changes of outlook and the improvement of the sciences are frequent, and accelerating in their frequency. We are in an age when rapid change is to be expected, and when new ideas are to be encouraged. The old-established law, like the preconceived idea, shuts out many new possibilities and improvements.

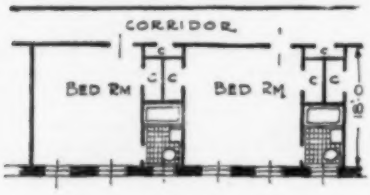

Fig 2. Bathrooms entered direct from bedrooms

The law which handicaps flat planning more than any other is that part of the London Building Act which says "no water-closet shall be approached direct from a habitable room." It has, therefore, to be entered from a lobby or corridor. For flats in the older style, where there was only one bathroom and w.c., this was a very good and necessary regulation, and one which no architect or builder wanted to quarrel with. But now that it has become necessary to provide a toilet-room for nearly every bedroom in a good flat, the case is different. To have to enter all the bathrooms from corridors uses up valuable floor space—a sacrifice not justified by the advantages gained—if any. To enter direct from a bedroom to a toilet-room which has its own window on the face of the building, and is used by not more than two people, cannot possibly be classed by our legal authorities as offensive on hygienic grounds. The practice of entering direct from a bedroom is common in good-class flats in other countries, and never raises any objection from the very best class of tenants. In fact, where a bedroom has its own private bathroom it is an advantage to the occupant to be able to reach this bathroom in absolute privacy.

Take, as an illustration, a portion of a normal bedroom suite, as in Fig 1.

On the other hand, by adopting the direct entry from the bedroom, a plan is arrived at, as in Fig. 2, which provides two large extra cupboards in each bedroom and a cupboard facing on to the corridor. Other advantages are :—

1. The planning of the toilet-room itself is much easier, because the rear wall takes the bath along its length.
2. More light for corridor is obtained via the open bedroom door.
3. Toilet-room can be smaller and is better arranged.
4. The interior of the bathroom cannot be viewed from the corridor.

On account of the wastage shown in Fig. 1, the architect is usually driven to torturing his plans to avoid this sacrifice, whereas if he were allowed the direct approach the thing would be much simpler from the outset.

I suggest that the law be amended so that whereas it shall still be necessary for at least one water-closet to be approached from the corridor, any additional water-closets, when contained in bathrooms, shall be allowed to have approaches direct from bedrooms.

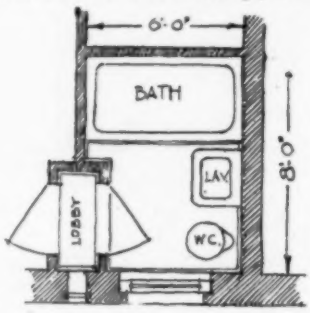

FIG. 3.

In some instances the desire embodied in this suggested revision has been practically achieved when local sanitary authorities have extended a leniency in the interpretation of the regulation that "when toilet-rooms are approached from bedrooms it is necessary to provide a sufficiently lighted and ventilated apartment between the bedrooms and the water-closets." Intermediate apartments of very small dimensions have been allowed as in Fig. 3.

This device, however, only amounts to an evasion of the law of the London Building Act made possible because the local authorities realise the needlessness of that law. The position is unsatisfactory, and there ought to be a clear basis on which an architect can design his plans. The advantages of the suggested amendment, apart from those already mentioned, cannot be doubted. The whole question of flat planning would become much more simplified; compartments could be arranged with more fluency and more alternatives would be possible in the development of a site.

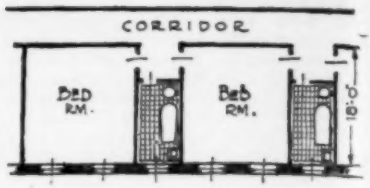

Fig 1. Portion of Bedroom suite

The Toilet-room.

The question of the improved arrangement of the toilet-room when it is entered from a bedroom brings up the question of the size of the bath itself. In England we have always considered it necessary to have our baths 6 ft. long, but 4 ft. 9 in. should be enough. It is not really necessary to lie down at full length in one's bath; and the 4 ft. 9 in. length has the advantage of being very useful to the architect. It allows a bathroom as in Fig. 4.

Two further plans of modern flats are illustrated :—

Fig. 5.—First-floor plan; six flats per floor; six-story building in Kensington. Architects, Messrs. T. P. Bennett & Son. Contractors, Messrs. F. G. Minter, Ltd.

This site has been generously used to provide good natural lighting on all fronts. The flats are designed on quite modern lines with service lifts in direct connection with the dining-rooms at one end, and with service stairs and lift at the other. The amount of corridor space is reduced to a minimum, and the relationship of room shapes and sizes is very good. It should be noticed that the inner halls are dark, and that bathrooms lead into dark corridors.

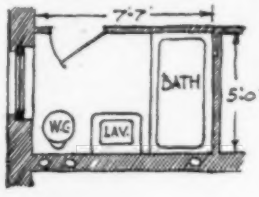

Fig 4 Plan of small bathroom

Figs. 6 and 7 show ground floor and basement of Harley House Extension Flats, Marylebone-road, London, built in 1924 from the designs of Messrs. William & Edward Hunt, FF.R.I.B.A. There are six floors, with two flats on each floor.

The design of these flats was dominated by the position of the main stairs, which already existed. If three flats had been planned on each floor instead of two, another entrance and passenger lift would have been necessary. The corridors are long, but they have made possible a plan which is very straightforward and reasonably proportionate in its units. An interesting feature is its generous provision of lifts. In addition to the passenger lift, there are three service lifts, one for furniture which will take a piano, and two small electric trades lifts.

On account of the area along two outer sides of the building sufficient daylight was available to plan 14 spare living-rooms in the basement or lower ground floor, the storage, boxrooms, etc., being relegated to the inner walls. The basement plan shows a good arrangement of entry and circulation.

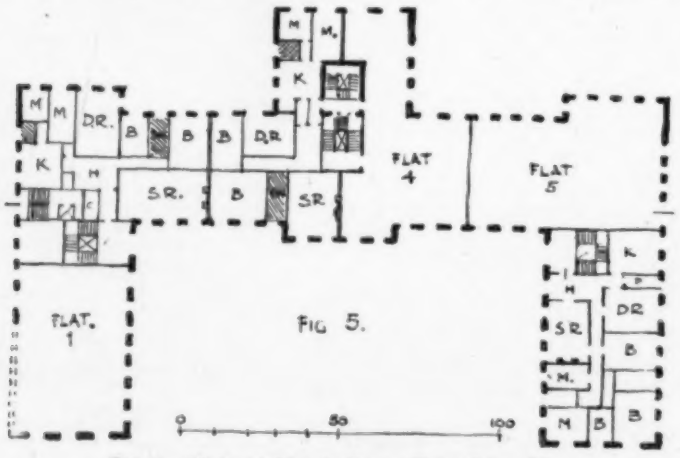

FIG. 5.—Flats at Kensington: First-floor Plan.
MESSRS. T. P. BENNETT & SON, Architects.

BOOK REVIEWS

English Church Woodwork. By F. E. HOWARD and F. H. CROSSLEY. (London: B. T. Batsford.) 370 pp., 480 illustrations. 4to cloth (2nd edition), 35s. net.

Comparatively few even amongst the more travelled section of the community are fully aware of the vast wealth of mediæval carvings that may be found in the churches of our villages and country towns. Of course, the art treasures of the cathedrals are as household words, but it needs a book like the one before us to bring the minor monuments home to us. In the illustrator's preface Mr. Crossley tells us that for over 20 years he has been in the habit of spending six weeks of each year in studying and measuring up mediæval church woodwork in England, at first with the aid of a sketch-book, but later by the aid of a camera. By those means he accumulated data of over 10,000 objects. From this wealth he selected some 380 illustrations of lesser-known subjects where they illustrated the desired points and adding those better-known when necessary or when exhibiting especial beauties or points of interest. These pictures range in subject from the humblest carved coffers and bench-ends to elaborate pulpits and font-covers up to choir stalls, episcopal thrones and chancel screens.

To this, the second edition of the book, is added a series of 16 full-page collotype plates, exhibiting fine examples, some well known, of chancel screens, stall work, benchings, exceptional font-covers, and a few complete interiors. These collotype plates may be accepted as an intelligent and welcome case of "extra illustrating," with their two pages of indexing and useful notes. Amongst the most fascinating of these extra illustrations are (1) the Dean's stall-end, Chester Quire, dated 1380, carved from one solid block of oak, showing the Stem of Jesse and the Coronation of the Virgin; (2) Lower Peover Church, Cheshire—a church interior construction of timber in a county where timber was plentiful and good building stone scarce in the early sixteenth century, hence the pillars and arches are built entirely from huge baulks of timber; (3) very notably the interior of Bradninch Church in East Devon, about eight miles east of Exeter. Bradninch is known well enough locally—traditionally the Mayor of Exeter had to hold the stirrup for the Mayor of Bradninch in the days when it was a corporate town; but placed, as this little town is, a mile or more from Hele Station, how many of the countless passengers rushing through to Exeter, Plymouth, and Lyonesse know of the lovely Perpendicular church in the fold of the hill above the River Culm, with its soaring, clustered columns and pointed arches, and its exquisite late-fifteenth-century chancel-screen with its typical Devonshire vault traceries and the paintings of saints still in good condition in the dado panelling? If, as the text says, the painting of saints in the Devon screen-panels never rise to the level of works of art, they are at least interesting and amusing. If Devon produced no great school of painting in the Middle Ages, it is evident from still existing examples that she had great scholars in her carving school. A similarly fine example of screen work is at Cullompton, two or three miles east, and again two more at Ken and Kenton, in the uplands above the Exe estuary. To see these last-named the tourist may perhaps sometimes trudge three or four miles through the country lanes from Starcross; the motorist will probably "give them a miss."

Mr. F. E. Howard is responsible for the text and general arrangement of the illustrations in this volume, and the whole constitutes a remarkable study in English craftsmanship during the mediæval period A.D. 1250-1550. The section dealing with roof-timbering, amply illustrated with measured drawings of constructional details, is a notable feature in a volume which is essentially technical and yet not overburdened with technical details.

A HISTORY OF ARCHITECTURE ON THE COMPARATIVE METHOD. By SIR BANISTER FLETCHER, F.S.A., F.R.I.B.A. Eighth Edition. London: B. T. Batsford. Price £2 2s. net.

The universal popularity and usefulness of Sir Banister Fletcher's "History of Architecture on the Comparative Method" is shown by the appearance of yet another edition, the eighth. Of all books on architecture this would seem most entitled to the term "hardy perennial," the evergreen among the profuse literary vegetation, so to speak, of recent years.

The eighth edition, which has been completely revised, with additional illustrations, has the following distinctive features as compared with the seventh: (1) The text pages and photographic subjects have been enlarged to correspond with the line diagram plates—the latter having been increased for the seventh edition, leaving the remainder as in the sixth edition. These alterations have been skilfully made so as to keep to the original pagination. (2) Several additional plates of illustrations have been added, including one with a view of ancient Athens, one with a view of a Cambridge college, and another with Georgian public buildings. This again has been done without altering the pagination. The "History" now appears in a smooth blue cover, as against the smooth black of the seventh and linen-texture blue of the sixth. It will continue to hold its place as the most highly-compacted and highly-organised general work on the architecture of the past, as easily consulted by the layman as by the technical student

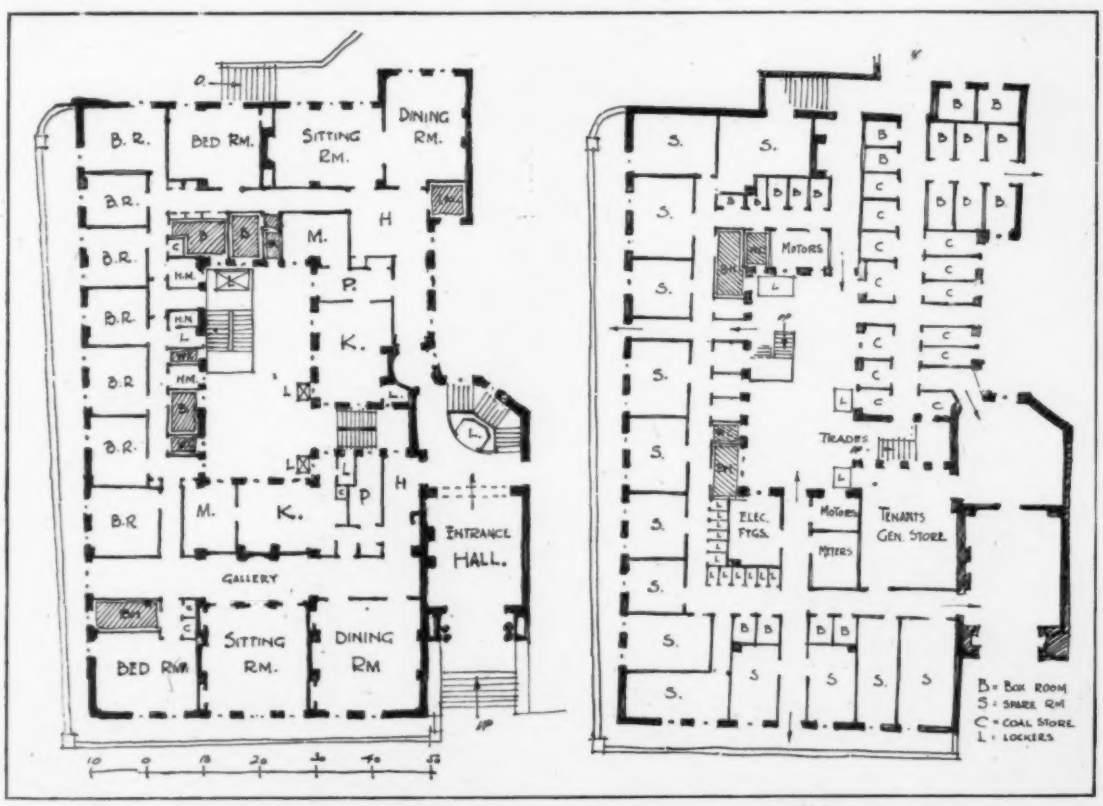

FIG. 6.—GROUND-FLOOR PLAN. FIG. 7.—BASEMENT PLAN.

Harley House Extension Flats, Marylebone Road.

MESSRS. WILLIAM & EDWARD HUNT, FF.R.I.B.A., Architects. (See opposite page.)

ILLUSTRATIONS

Burnt Ash Council School, Bromley, Kent.

This school has been erected to provide accommodation for 1,040 scholars in classrooms and 40 in handicraft and housewifery departments, subdivided as follows :—400 mixed juniors, 320 older boys, and 320 older girls, with space for 20 boys in handicraft room and 20 girls in the housewifery room. There are two assembly halls, one for 400 juniors and one for 320 senior boys and girls, intended to be used alternately. The size, position, and orientation of the site primarily affected the main lay-out, and full advantage has been taken of the natural circumstances; the general slope towards the south-west aiding the natural fall of the drains and heating-pipe lines.

The lighting to the classrooms is by means of roof lights set at an angle of 60 degrees facing mainly north, and running the full length of each classroom; the southern slopes being roofed with tiles and plastered on the inside face, forming an air-space between, counteracting the direct heat from the sun. The ventilation to classrooms is by means of ventilators in the glass slopes and by the doors which run the full length of the classrooms on two opposite sides. These doors may be opened as a whole or individually, and each door is provided with an upper glass panel which, as well as admitting light, may be made to fall inwards on quadrants or to fall full length downwards, thus ensuring complete control of the ventilation, and by which means, if all the doors are opened, a 100 per cent. immediate change of air may be effected.

The heating of the classrooms is by piping under the entire surface of the floor flow and return pipes running in trenches adjoining the doors and being connected by smaller pipes running transversely across the classrooms and radiating heat upwards through thin concrete slabs and "Granwood" flooring blocks, thus ensuring efficient heating from below. The housewifery, handicraft, halls, and administration blocks are heated by means of radiators, and are connected to the classrooms by means of covered open-air verandahs, which also entirely connect all the classrooms one to the other. The internal facing bricks are of pressed lime and sand variety. The roofs are both sloping and flat. A bright-coloured interlocking tile of excellent weathering quality was used to the slopes, while two coats of asphalt were used to the flat roofs.

The fittings in the handicraft and housewifery sections are of the latest, and adequate storage for food and timber is arranged, while a heated and ventilated drying-room is provided. The north and south administration blocks accommodate the heads of departments, their assistants, a medical officer, and a schoolkeeper's flat is provided of ample dimensions. A basement containing the heating and hot-water apparatus and sufficient space for full storage is situated under the south administration block, the natural fall in the ground again being utilised to obtain a gravity system of circulation. A booster pump, however, is installed to obtain a quick initial circulation.

The floors in the administration blocks are of ordinary grooved and tongued flooring; in the halls, housewifery and handicraft wood block has been found to be advantageous, while the sanitary blocks are finished with impervious granolithic paving. As the site is one of clay subsoil the foundations are reinforced.

Messrs. Herbert O. Ellis & Clarke, FF.R.I.B.A., of Old Queen-street, Westminster, S.W.1, were the architects, and Mr. F. H. Wood, P.A.S.I., the quantity surveyor.

The builders were the Ashford Builders' Co., Ltd., Ashford, Middlesex, and the following were sub-contractors :—W. T. Lamb & Sons, and Midhurst Brick Co., bricks; W. B. Simpson & Sons, Ltd., tiles (wall and floor); Courtrai-Du Nord Tile Co., Ltd., roof tiles; The Wharf Lane Concrete Co., Ltd., Ilminster, Somerset, stonework (artificial); The Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt; G. N. Haden & Sons, Ltd., heating and hot water; John Bolding & Sons, Ltd., sanitary fittings; Wotton & Son, Croydon, roof glazing; The Granwood Flooring Co., Ltd., Riddings, Derbyshire, classroom floors; Steel & Hampton, hardware, furniture, cloakroom fittings; George Wright (London), Ltd., fire interiors, gas appliances; Mr. R. E. Knight, Bromley, electric light; Constable Hart & Co., Ltd., tar paving; The British Reinforced Concrete and Engineering Co., Ltd., reinforcement; E. J. Elgood, Ltd., floor slabs.

Madame Tussaud's.

The burning down, in March, 1925, of Madame Tussaud's in Baker-street provided an opportunity for an entirely new building, embracing the famous waxwork show, a cinema and a restaurant. These buildings have now been completed. It was the necessity of providing a picture theatre to seat approximately 2,000 without restricting the exhibition that formed one of the chief problems faced by the architect, and it was also necessary to set apart a considerable portion of the site for a restaurant capable of accommodating 4-500 persons. The new façades are of classic type, the entrances to the theatre, exhibition and restaurant forming prominent features of the front elevation. The facings are in brick with pilasters and other decorative features in Atlas white cement. Over each entrance is a well-designed wrought iron canopy.

The main entrances themselves consist of six pairs of hammered bronze doors which, in the case of the picture theatre, open on to a spacious entrance hall of classic design in stone with travertine marble paving and staircases. There is a staircase on each side of the foyer, leading to the circle. The central entrance is to the stall seats, which are on the road level. Staircases and corridors giving on to the entrance hall are painted with a stippled surface, the ceilings being of richly modelled plaster. Accommodation has been provided in the stalls for 914 persons, who are protected from all outside draughts by a panelled and glazed draught-screen that reaches right to the ceiling. The walls of the auditorium are of French "stuc," surmounted by a richly coffered ceiling, decorated with gilt bronze and shades of apricot and pink. In the centre is a dome with cloud effects in shades of gold and amber. Organ grilles give an opportunity for decorative work that has been taken full advantage of. The walls of the stalls are lined with a richly figured walnut panelling, as are the doors and entrances, together with the screen at the back of the auditorium. In the circle the end is similarly lined with panelling, and on each side are two modelled cameo panels representing Phœbus in his chariot. The circle, which seats 810, is served by a cross gangway, one-third of the way up the tier.

Situated above the entrance hall, in the void of the balcony, is a tea lounge and waiting-hall, which will accommodate 3-400 persons. Architecturally it is in the late eighteenth-century manner. Ventilation is on the Plenum system. A large boiler room is at the back of the building, and three distinct plants serve the theatre, restaurant and exhibition. The air-washing plant is triple-controlled.

Messrs. Humphreys, Ltd., were the general contractors, and the following were sub-contractors:—Moreland, Hayne and Co., Ltd., steelwork; Hampton and Sons, Ltd., decorative work to cinema; The Bath Cabinet Makers' Co., Ltd., wall and ceiling decoration to exhibition, restaurant and Chamber of Horrors; The Berkeley Electrical Engineering Co., Ltd., electrical installation; The Sturtevant Engineering Co., Ltd., vacuum cleaning installation; The General Electric Co., Ltd., and C. J. Thursfield and Co., Ltd., Birmingham, electric light fittings (the latter firm being responsible for the entrance hall and staircase fittings, of bronze metal and amber glass, and the central dome fitting); The Kleine Patent Fire Resisting Flooring Syndicate, Ltd., flooring construction; The Crittall Manufacturing Co., Ltd., metal windows; The Express Lift Co., Ltd., lifts; Frank Burkitt, fireproof curtain and stage lantern; The Falkirk Iron Co., kitchen equipment; Haywards, Ltd., balustrades and fire escape staircase; Brown and Madeley, Ltd., stuc rendering; J. A. King and Co., Ltd., pavement lights and partition slabs; The British Challenge Glazing Co., Ltd., lantern lights; Stitson, White and Co., Ltd., sanitary fittings; Sulzer Bros., heating and ventilation; Independent Sprinklers, Ltd., sprinkler installation; J. M. Pirie and Co., metal entrance doors; Art Pavements and Decorations, Ltd., biancola flooring; Diespeker and Co., Ltd., terrazzo partitions and wall linings; Gimson and Sons (Leicester), Ltd., scenery counter-balance gear; John Stubbs and Sons, marble flooring; The Excel Asphalte Co., Ltd., asphalt work; Hollis Bros. and Co., Ltd., wood flooring; F. Knight and Co., Ltd., ironmongery, canopies and handrails; Carter and Co. (London), Ltd., tiles; I.T.C., Ltd., internal telephones; Kelvinator, Ltd., cold storage; W. J. Furse and Co., Ltd., Nottingham, lightning conductor; Joseph Chater and Sons, Ltd., glass; J. Binder and Co., stained glass; Knight and Co., electric curtain gearing; Vernita Scott, Ltd., decoration of lounge; Boro' Electric Signs, electric signs; H. Sabey and Co., Ltd., excavations.

Burnt Ash School, Bromley, Kent;

MESSRS. HERBERT O. ELLIS & CLARKE, FF.R.I.B.A., Architects.

The Piccadilly Theatre, W.

A description of this theatre will be found on page 780. Messrs. Bertie Crewe and E. A. Stone are the associated architects, while Messrs. Griggs, of Westminster, were the main contractors.

Some Measured Drawings.

We illustrate this week two elevations of the Chiesa S. Angelo della Pace, Perugia, measured by Mr. Herbert G. Thearle and drawn by Mr. John Watson, jun. The latter is also responsible for the water-colour drawings of the Pantheon, Rome, and of a scene in Nimes.

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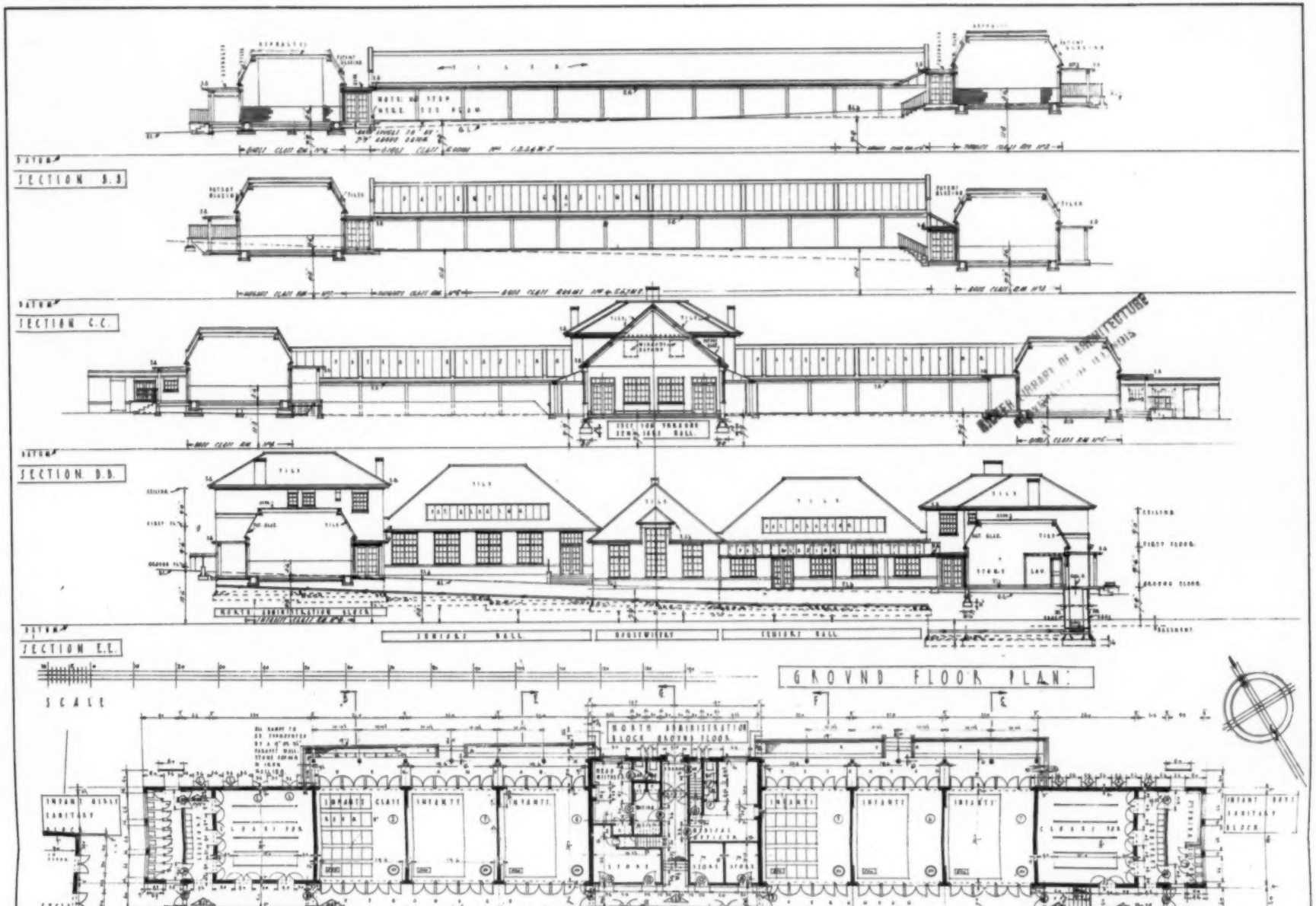
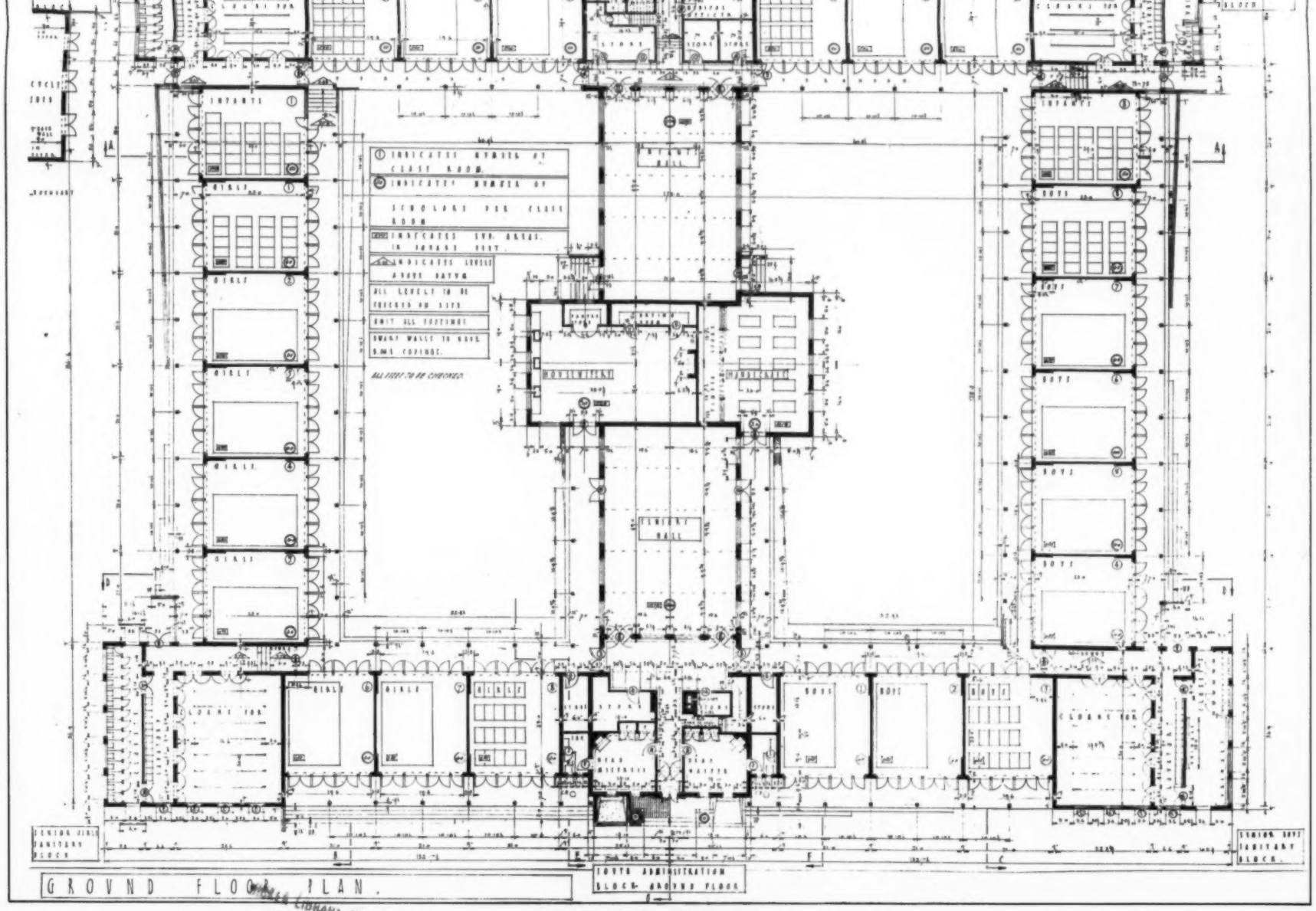

SECTION B.B
SECTION C.C.
SECTION D.D.
SECTION E.E.
GROUND FLOOR PLAN.
SCALE
INFANTS
INFANTS' CLASS
INFANT GIRLS' SANITARY
INFANT BOYS' SANITARY BLOCK
STORE
CLOAKS



BURNT ASH SCHOOL, BROMLEY, KENT.

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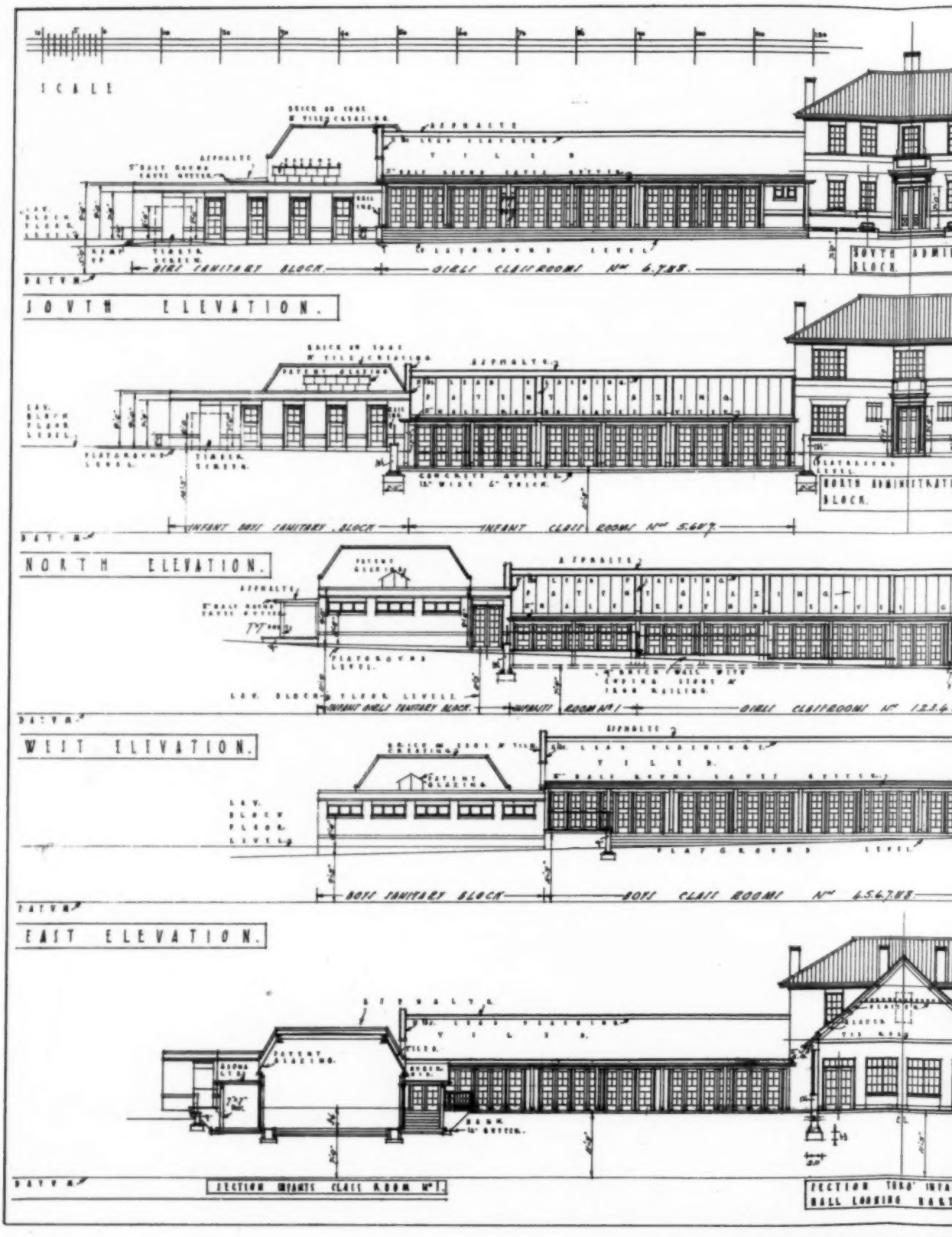
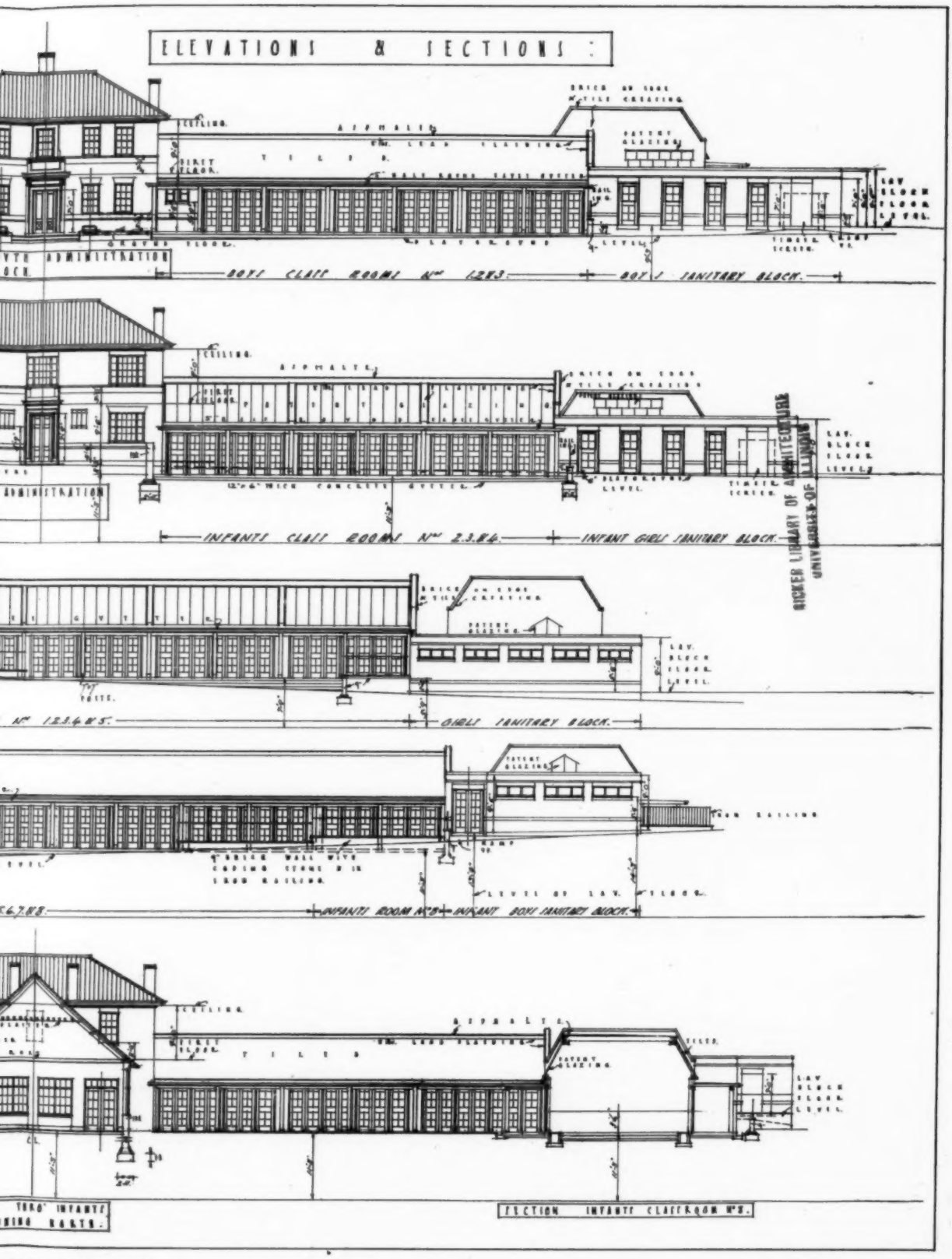


BURNT ASH SCHOOL, BROMLE

Messrs. Herbert O. Ellis & Clarke, FF.R


ELEVATIONS & SECTIONS :
ASPHALTE
TILED
BOYS' CLASS ROOMS Nos 1,2 & 3
BOYS' SANITARY BLOCK.
INFANTS' CLASS ROOMS Nos 2,3 & 4
INFANT GIRLS' SANITARY BLOCK.
Nos 1,2,3 & 4 & 5.
GIRLS' SANITARY BLOCK.
INFANTS' ROOM Nos 6 & 7 & 8
INFANT BOYS' SANITARY BLOCK.
SECTION INFANTS' CLASS ROOM Nos.

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Madame Tussaud's, Baker Street, W.: General View of Exterior. MR. F. EDWARD JONES, F.R.I.B.A., Architect.

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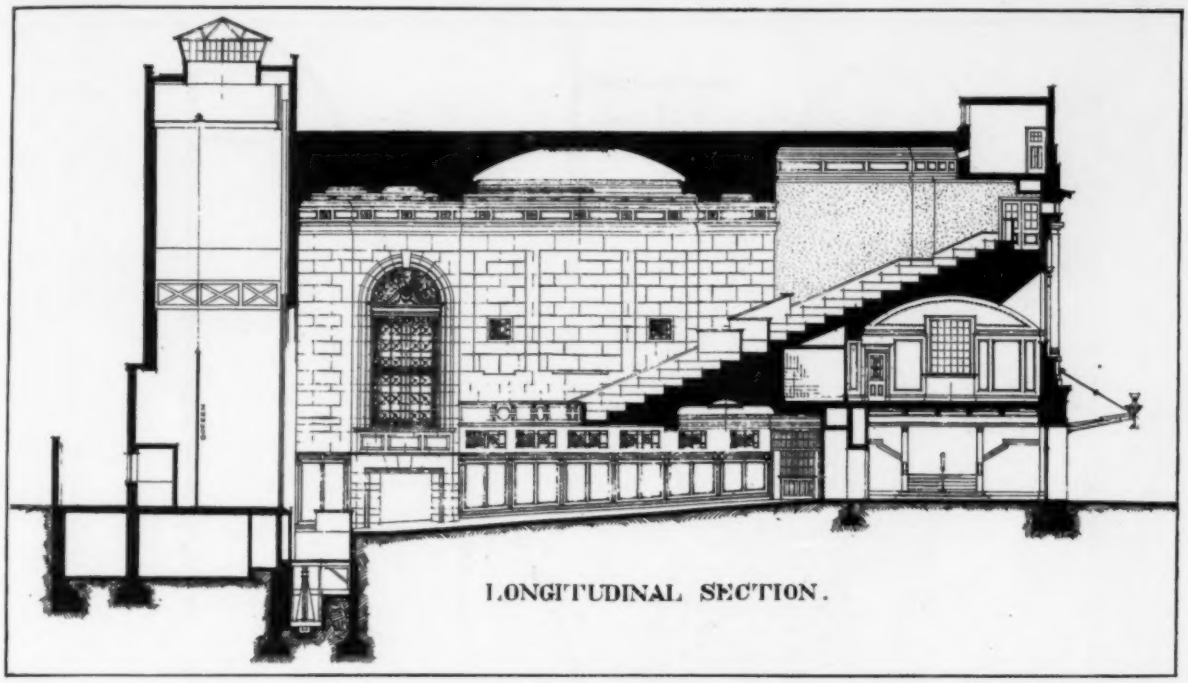
Madame Tussaud's, Baker Street, W.: Interior of Cinema. Mr. F. Edward Jones, F.R.I.B.A., Architect.

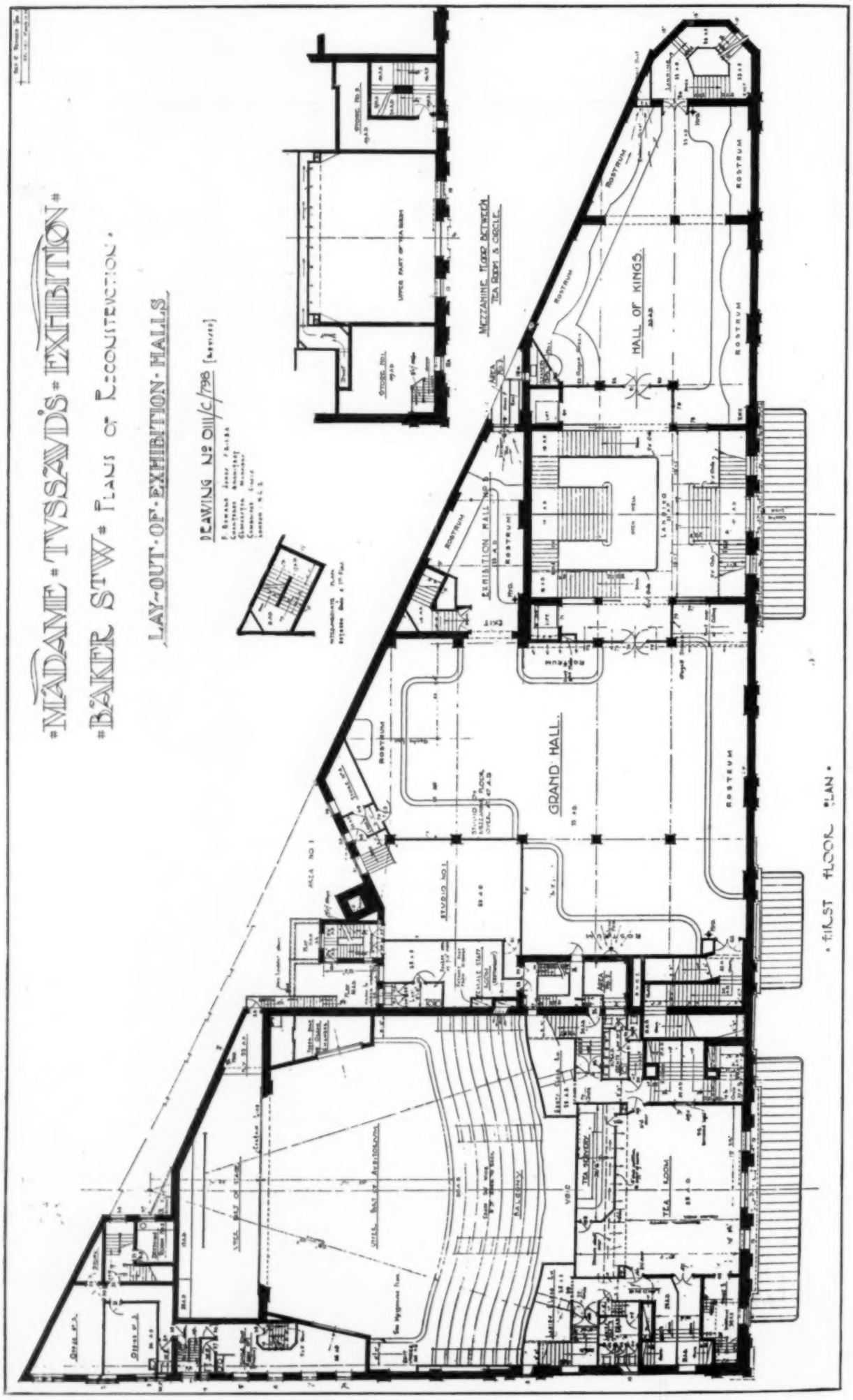


Longitudinal Section through Cinema.

Entrance Hall of Cinema.

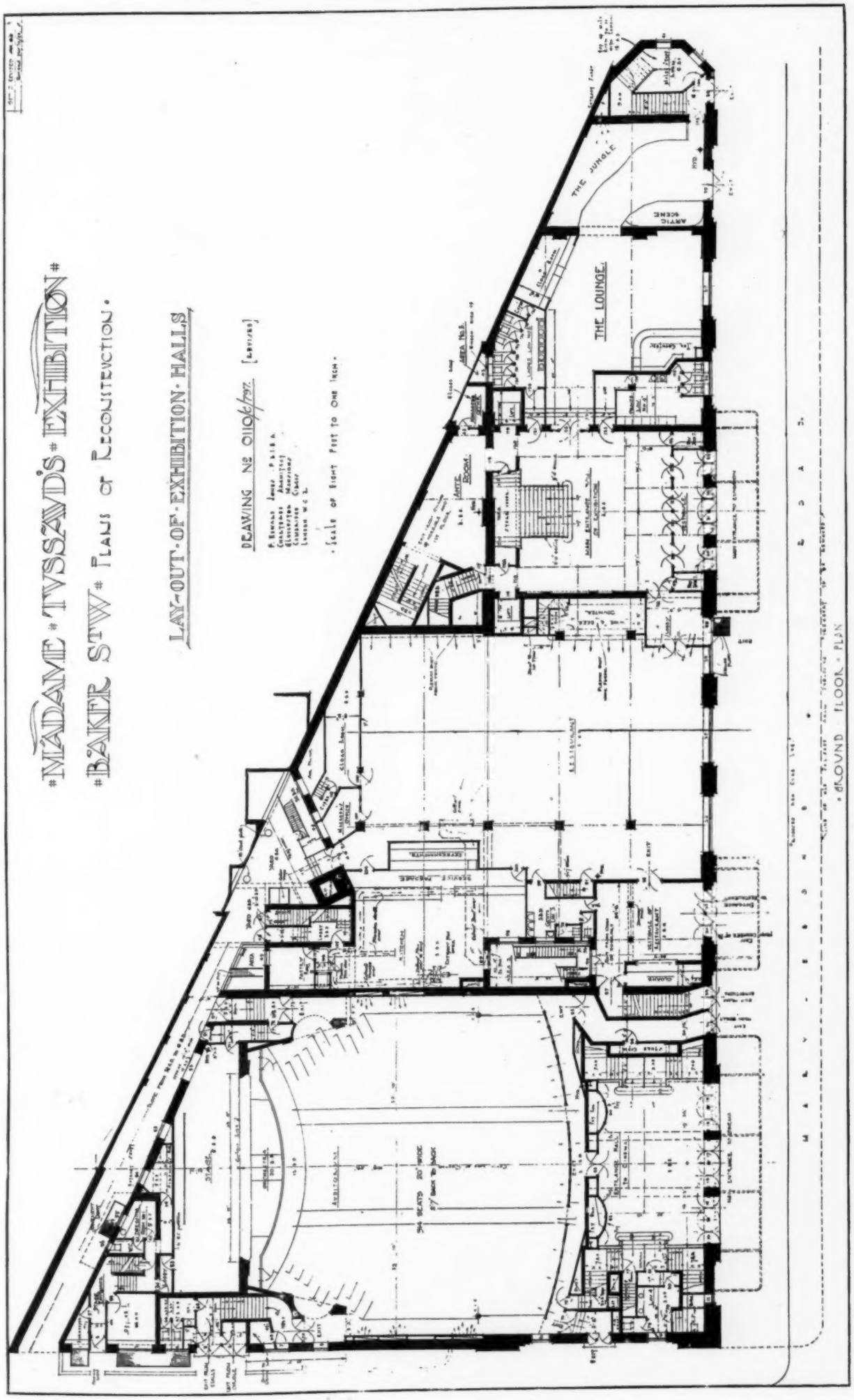
Madame Tussaud's, Baker Street, W.

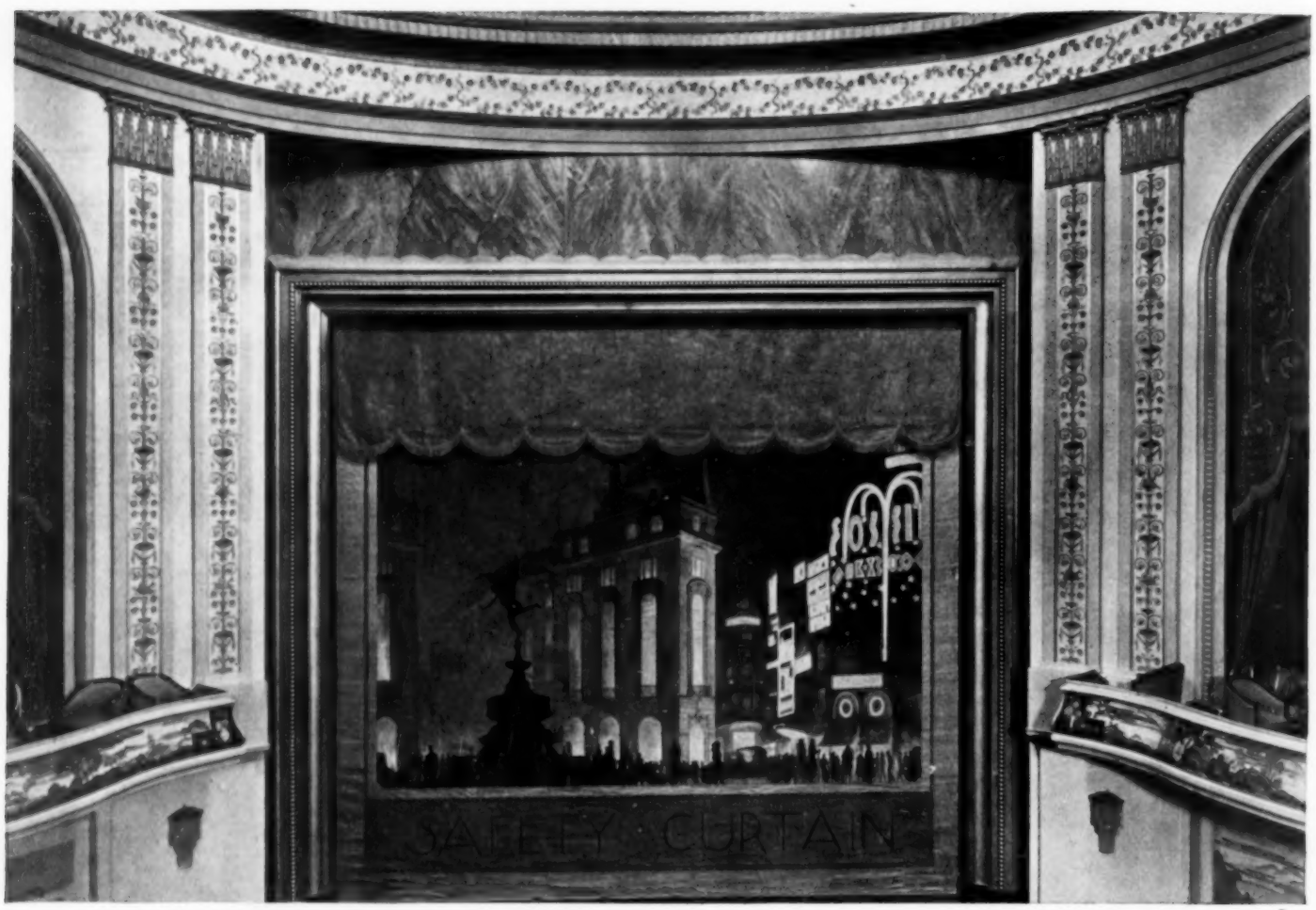
Mr. F. Edward Jones, F.R.I.B.A., Architect.



Madame Tussaud's, Baker Street, W.

Mr. F. Edward Jones, F.R.I.B.A., Architect.


#MADAME #TVSSAVD'S #EXHIBITION#
#BAKER STW# PLANS OF RECONSTRUCTION.
LAY-OUT OF EXHIBITION HALLS
DRAWING No 0110 of 1928.
SCALE OF EIGHT FEET TO ONE INCH.
THE JUNGLE
ARCTIC SCENE
THE LOUNGE
ARENA
394 SEATS 20" RISE
Madame Tussaud's, Baker Street, W.
Mr. F. Edward Jones, F.R.I.B.A., Architect.

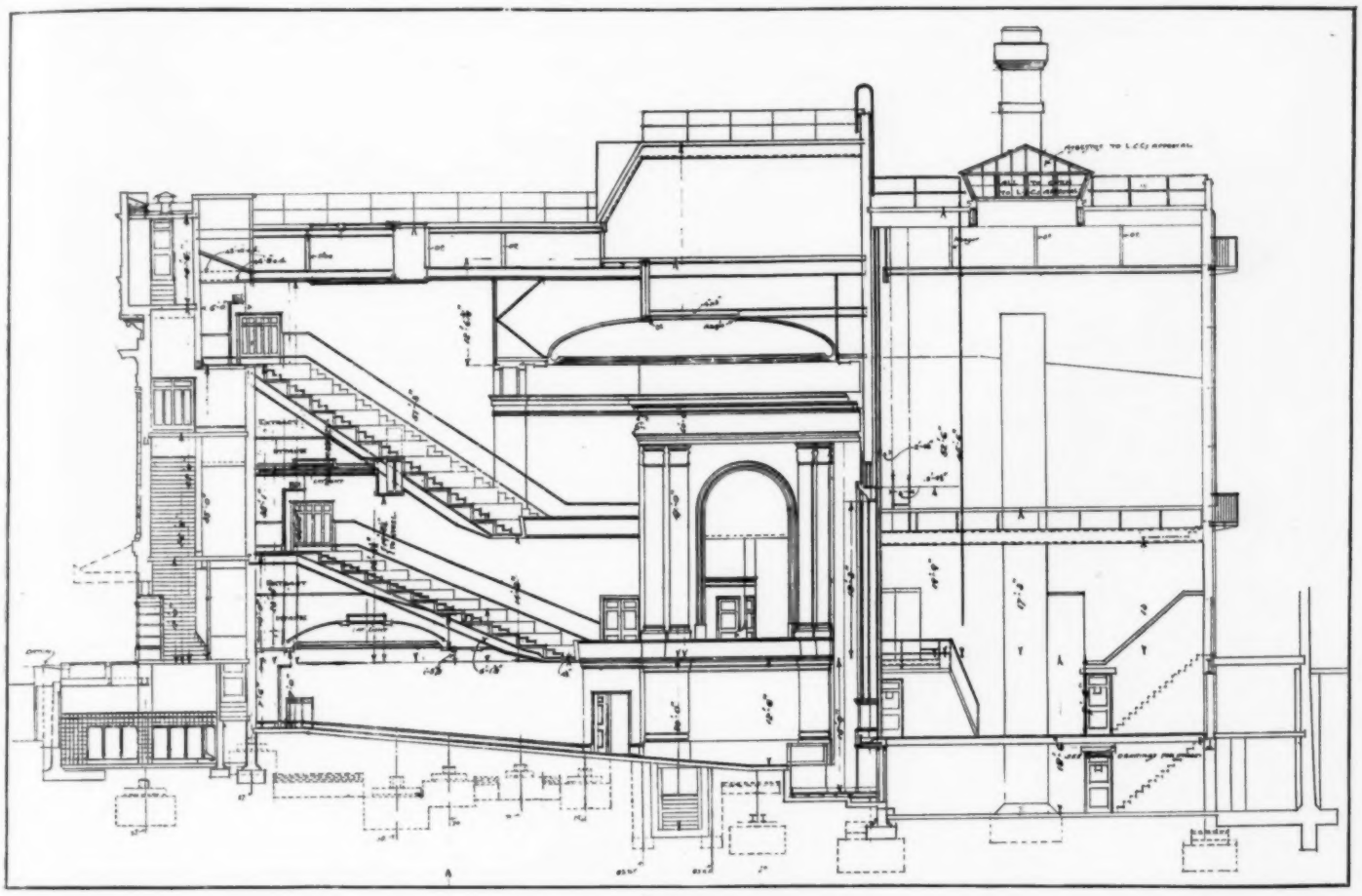


Detail of Proscenium.

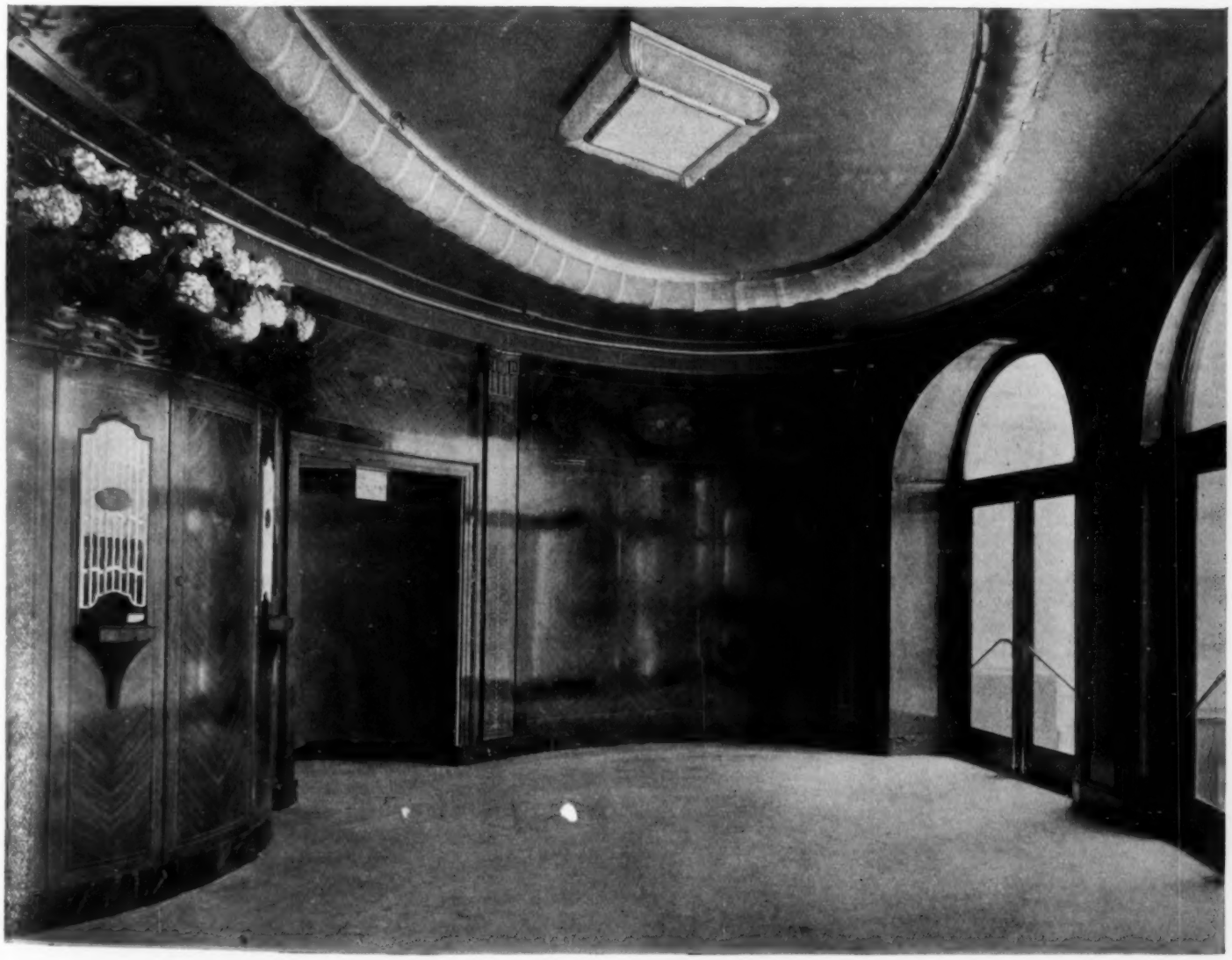
The Exterior.

The Piccadilly Theatre, Sherwood Street and Denman Street, W.

Messrs. Bertie Crewe and E. A. Stone, Joint Architects.



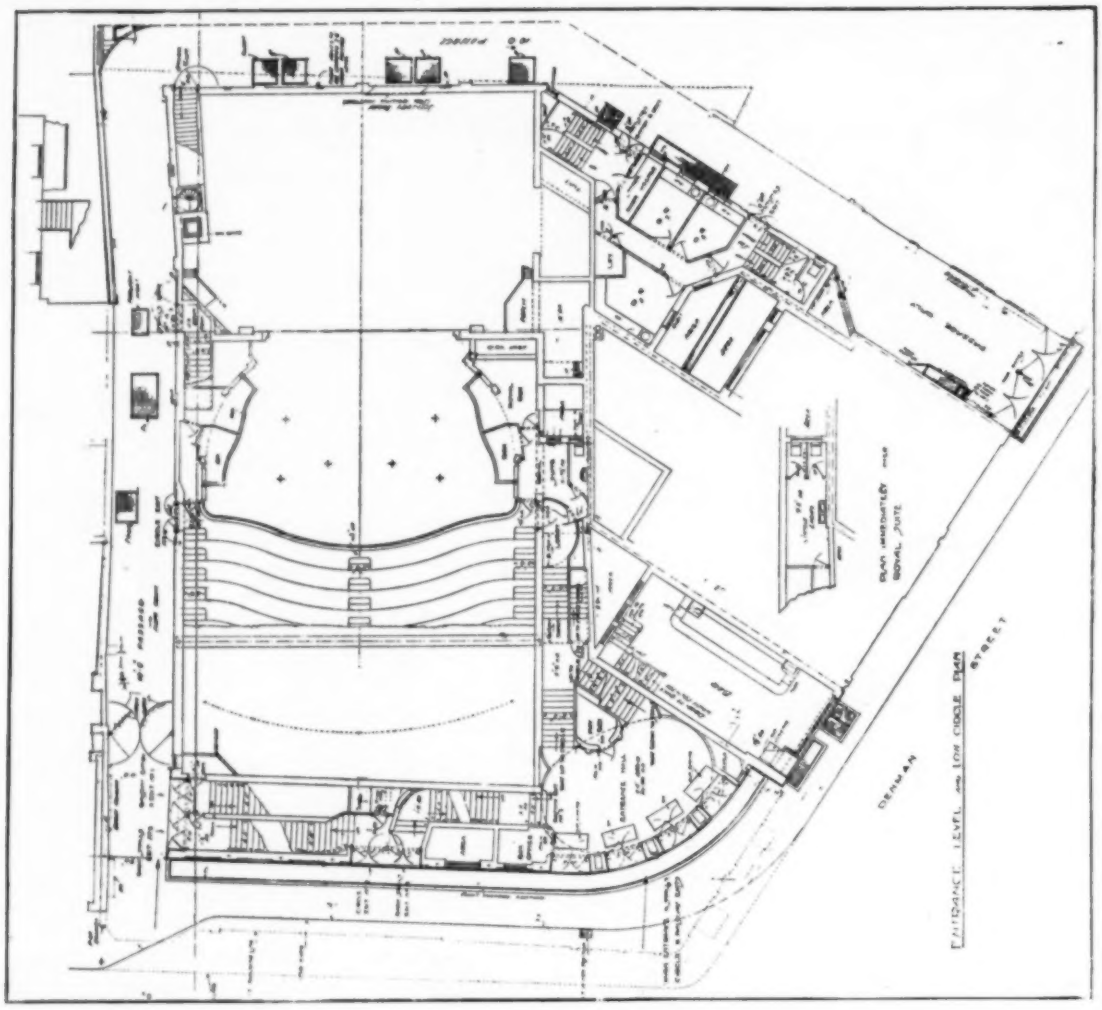
Section.

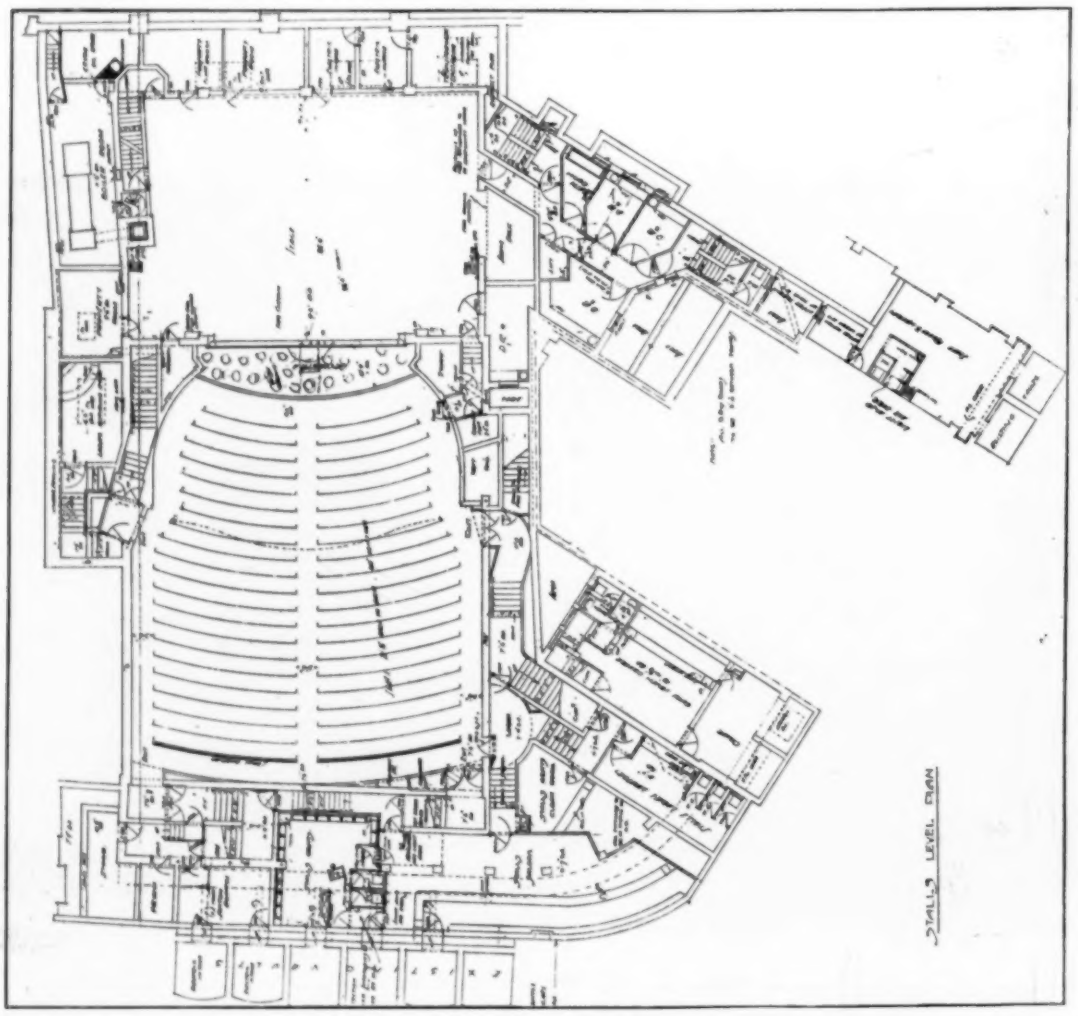


Entrance Hall.

The Piccadilly Theatre, Sherwood Street and Denman Street, W.

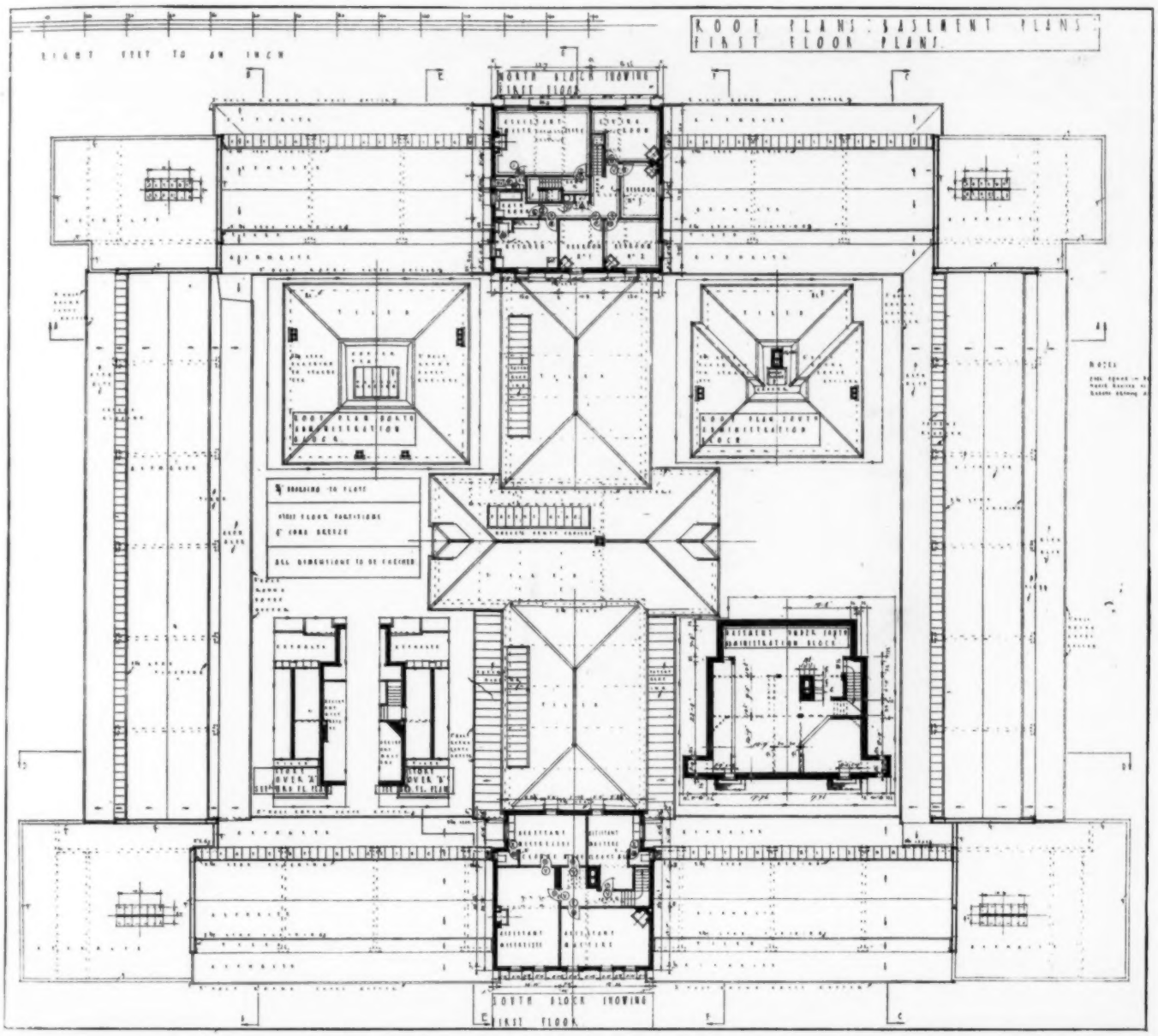
Messrs. Bertie Crewe and E. A. Stone, Joint Architects.





The Piccadilly Theatre, Sherwood Street and Denman Street, W.

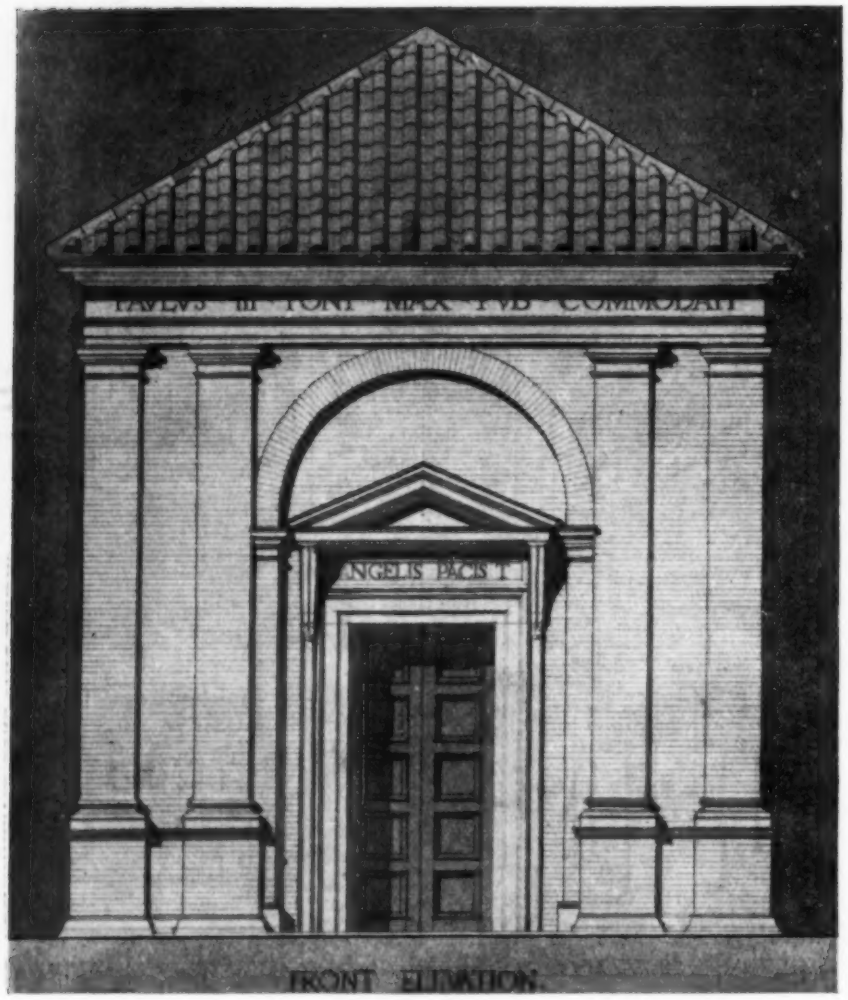
Messrs. Bertie Crewe and E. A. Stone, Joint Architects.

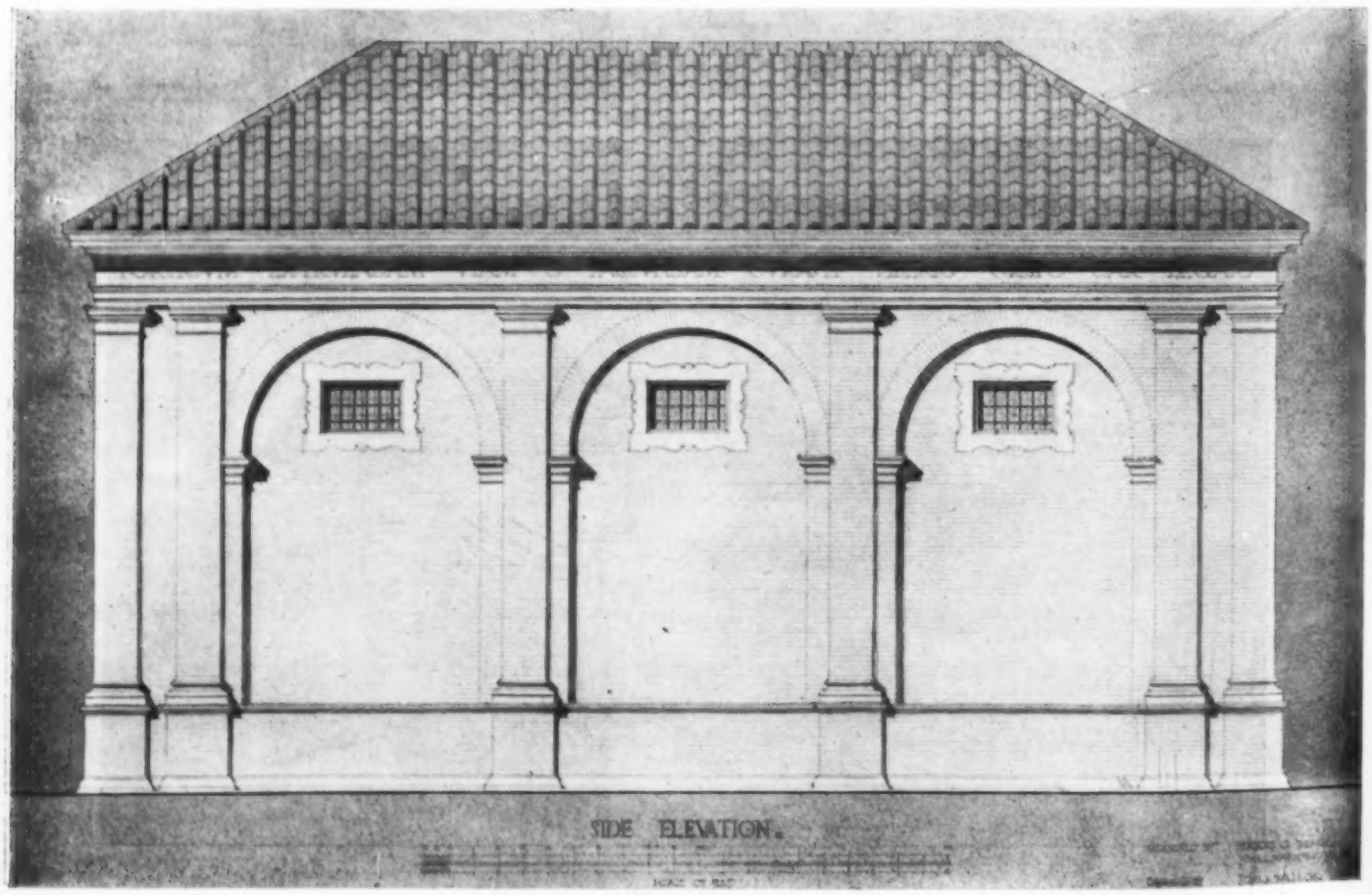

ROOF PLANS : BASEMENT PLANS
FIRST FLOOR PLANS
EIGHT FEET TO AN INCH
NORTH BLOCK SHOWING FIRST FLOOR
SOUTH BLOCK SHOWING FIRST FLOOR

An Air View.

Burnt Ash School, Bromley, Kent.

Messrs. Herbert O. Ellis & Clarke, FF.R.I.B.A., Architects.





Chiesa S. Angelo della Pace, Perugia.

Measured by MESSRS. HERBERT G. THEARLE and JOHN WATSON, JUN., Drawn by MR. JOHN WATSON, JUN.

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OF
THE GEORGIANS

Drawn by Leonard Squirrell, R.E.

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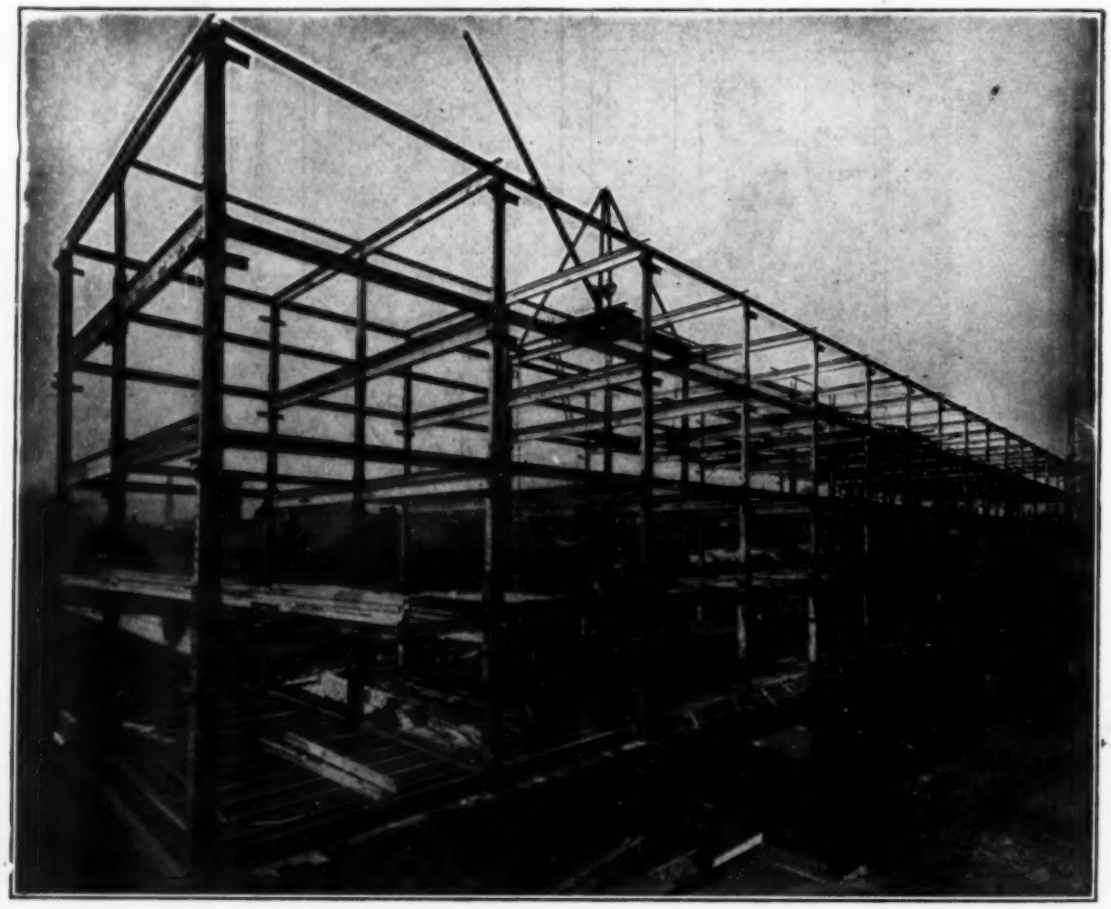

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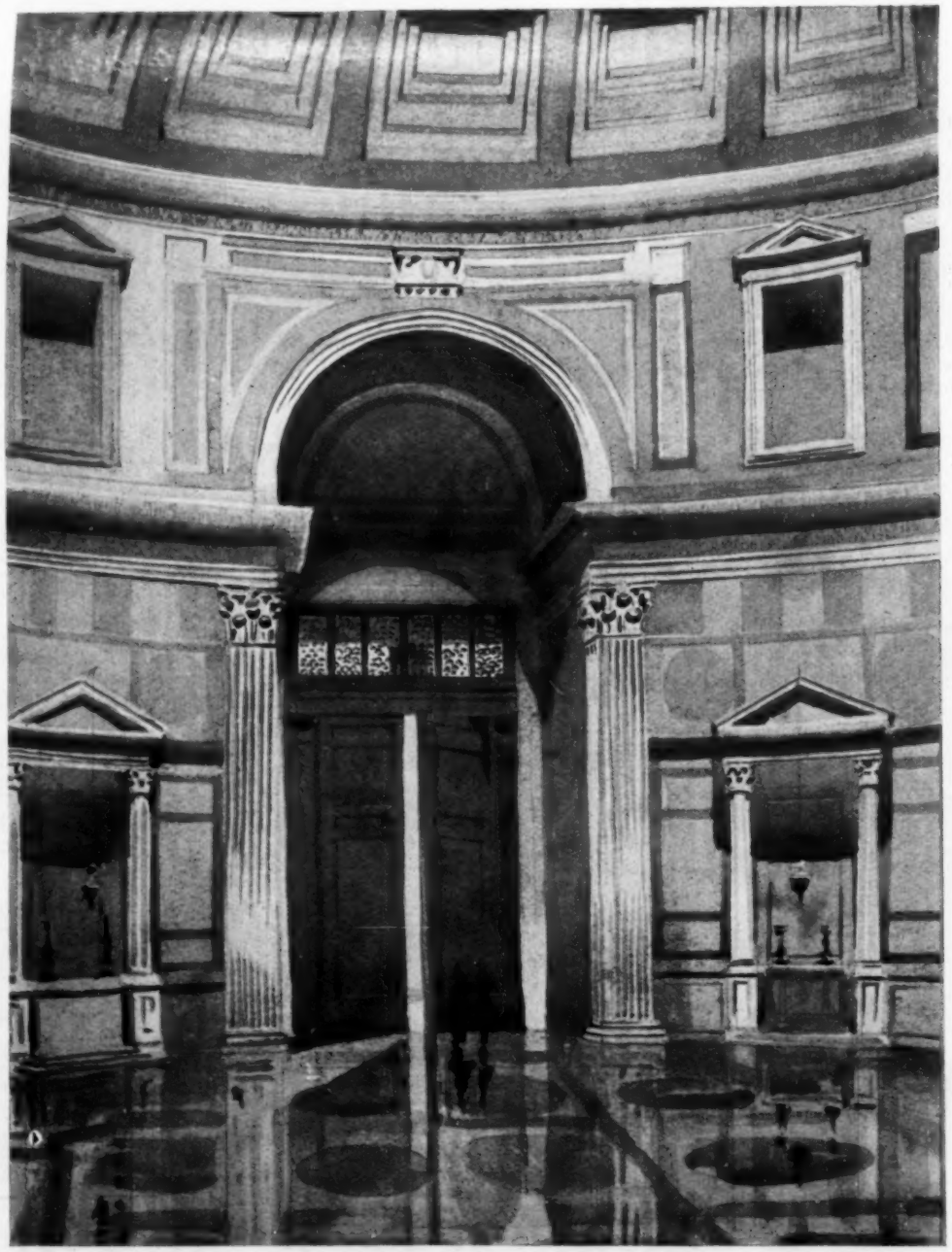
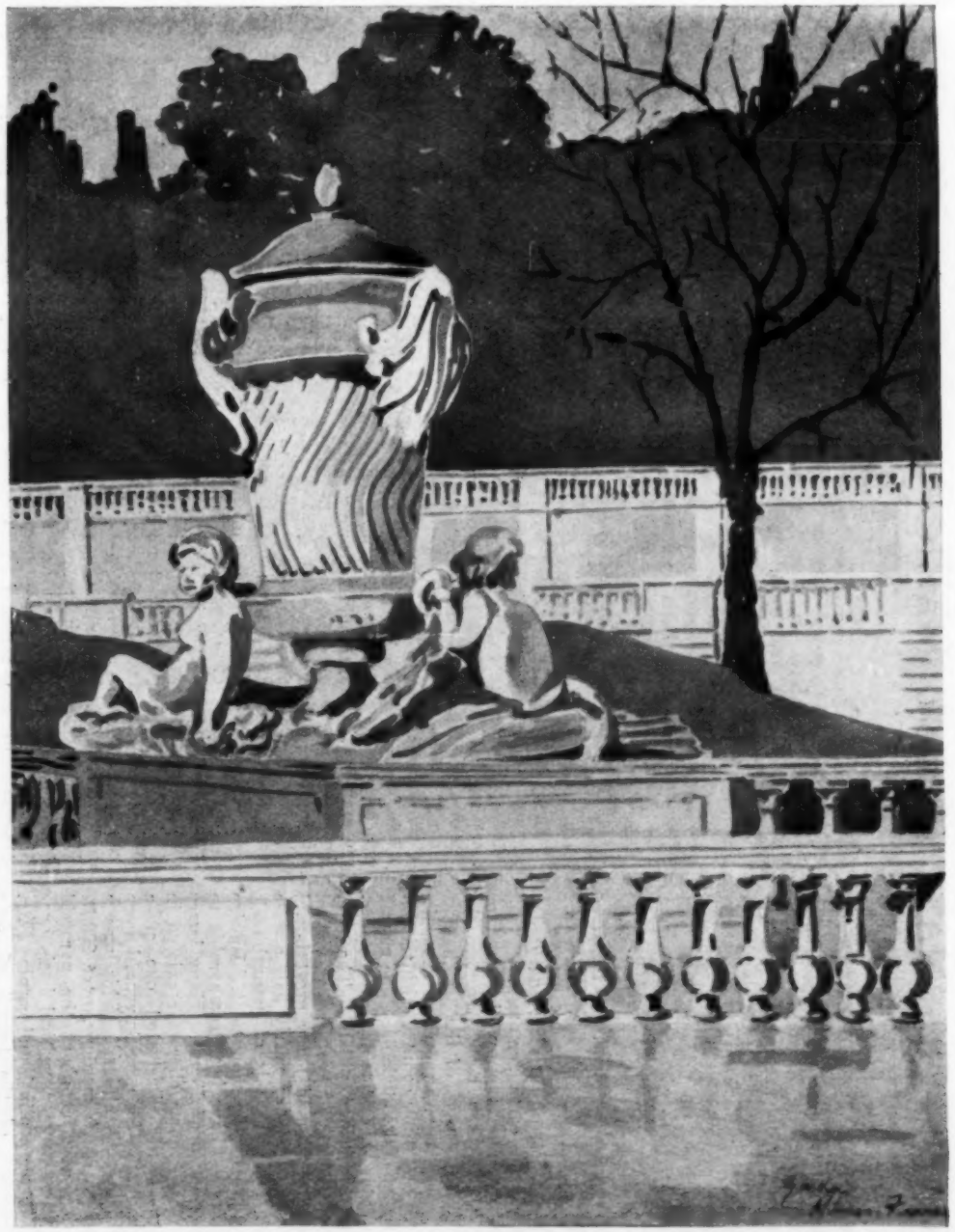


The Pantheon, Rome.

From a Water-colour Drawing by MR. JOHN WATSON, JUN.



Garden, Nimes.

From a Water-colour Drawing by MR. JOHN WATSON, JUN.

ARCHITECTURE, NATURE AND MAGIC—IV

By W. R. LETHABY.

THE WESTERN DEVELOPMENT.

In this section we are to trace the influence of imaginations of a world mountain and sky pillars upon architecture in the West. Ionia and the rest of Asia Minor where so many Greek traditions were developed, will here be counted with Europe. We may start with the general idea that "High Places" were sacred from remote antiquity in many countries, and that this sacredness was shared by artificial mounds. A large stone at Delphi shaped in the form of the smaller end of an egg, which was said to be the centre of the earth, was at the same time a sort of tumulus, and doubtless symbolised the earth mountain.

Herodotus describes the burial mound or tumulus of the Lydian King Alyattes, the father of Crœsus, a work of the first half of the sixth century B.C., as greater than the monuments of any other country with the exception of Egypt and Babylonia. The mound rose from a stone basement, and on the summit were five inscribed pillars. The site, which is to the north of Sardis, was visited by Hamilton, who found many great burial mounds, the largest being nearly half a mile round. Part of its base is of natural rock cut to the form of the monument. In size this tumulus must have been comparable to the larger pyramids of Egypt. Many lesser monuments of the same character existed in Asia Minor. Texier illustrated one of a group on Mount Sipylos near Smyrna, known as the "Tomb of Tantalus." This was a massive cone of rough masonry, over 200 ft. in diameter, sloping at about the pyramid angle, and rising from a vertical basis over 50 ft. high, having a plinth and cornice (Fig. 1). The builders of the tumuli of Asia

Fig. 1.

Minor doubtless knew of the Ziggurats of Mesopotamia and the Pyramids of Egypt through the stories of merchants and seamen. That these monuments were meant to symbolise the sky mountain is made more probable by the proud burial farther east of a ruler who must have inherited the burial traditions of Asia Minor and Syria.

Antiochus I, of Kommagene (died *c.* 38 B.C.) was buried on the highest mountain peak in his dominion, an outlying spur of the Taurus range by the Upper Euphrates. Here at a height of about 7,000 ft. a prodigious mass of stones was piled up in conical form, giving the mountain an artificial peak and forming a vast tumulus. This added cone had a diameter at the base of about 150 yards and rose at an angle of about 35 deg. On two terraces at opposite sides, where the artificial cone rose from the mountain, were ten colossal statues in two groups, carved out of limestone blocks set in courses and about 26 ft. high. The central statue of the eastern group, larger than the rest, was Zeus, between two images of the potentate in different vestments.

Antiochus set forth his intentions in a pompous inscription—"When I had determined to construct . . . this sacred monument hard by the heavenly throne, to the end that the body having sent forth a soul . . . to the throne of Zeus might sleep for endless ages. I chose to make this spot the seat of all the gods. . . . Wherefore I have established these godly effigies of Zeus, Apollo, Mithras (etc., etc.). . . . Moreover, I have set up my own form." (*Zeus I*, p. 744, with illustrations).

The great monumental mounds of Asia Minor resemble very closely, as Fergusson pointed out, important tumuli erected by the Etruscans in Italy. It is generally agreed that the Etruscan people were migrants from Asia Minor who settled in Italy about 1000 B.C. The tumuli probably date from *c.* 700-400 B.C. (See Dr. Randall MacIver's pleasant little book on *The Etruscans*).

The typical Etruscan tumuli had bases of stone from which rose conical mounds of earth; within were carefully executed chambers reached by passages from the circumference, usually two or three in each monument. Those of the important group at Cervetri which have recently been thoroughly explored are described and illustrated by Dr. MacIver. They are about 40 or 50 metres in diameter. The round "drums" at the bottom are in some cases largely or wholly of the natural tufa rock, which was cut away all round. Sometimes the rock was only a few feet high, and all the rest of the "drum" was built of blocks of masonry. The "drums" of others are wholly of masonry. Dr. MacIver is inclined to think that these monuments were developed in Italy irrespective of the tumuli of Asia Minor, but the likenesses of those in the two countries seem to me too great to allow this to be probable. Besides the general similarity, they are in both cases nearly of the same date, in both they are disposed in groups, and, as we have just seen, the "drum" of the tumulus of Alyattes in Lydia was in part cut out of the living rock. The most likely explanation, it seems to me, is that the immigrants maintained some contact with their original home. It is just announced that an Italian scholar has at last succeeded in reading the Etruscan language, and if this is so, we shall doubtless gain more evidence regarding the monuments. (Compare also Rivoira's *Roman Architecture*, and papers British School at Rome, 1902, p. 152).

The Mausoleum of Augustus (*c.* 28 B.C.) in Rome was of the tumulus type. It is described by Strabo as a mountain of earth planted with trees raised on a lofty base of masonry. On the summit was a colossal bronze statue of Augustus, and at the sides of the entrance were two bronze columns bearing long inscriptions. The planted mound was supported by massive substructures of masonry and concrete, which are just now being excavated. The whole monument was 285 ft. in diameter, Within the circumscribing masonry were big hollow spaces of niche form, and behind these twelve large circular spaces, vaulted above, which were also completely closed. These and the niches filled out some of the vast bulk of the monument. The entrance passage struck into the mass until an inner wall 8 ft. thick was reached. "This wall runs right up, the circle it encloses being 135 ft. in diameter." At a higher level were circular corridors, and in the centre of all a square space. The statue of Augustus on the symbolic mount must have represented his apotheosis, as did the images of Antiochus. Other tombs in and outside Rome of the tumulus type were probably more or less consciously in the world-mountain tradition. The tomb of Lucilius Poetus is described as "a great drum of neatly jointed blocks 114 ft. in diameter and 10 ft. 6 in. high; on this circular base rested a great cone of brick-faced concrete 55 ft. high." Middleton points out that a Greek example of similar form exists at Cyrene in North Africa. A little building near Naples, known as the tomb of Virgil, is represented in Fig. 2.

The Trophy monument at La Turbie, near Monaco, erected 7-6 B.C., is so called from *tropæum*. It was a great circular monument on a high square basis. The upper part was surrounded by Doric pillars and surmounted by a stepped cone, on the apex of which was a colossal statue. Another large trophy monument is that of Adamklissi (for illustrations and full bibliography, see *Zeus*, II, p. 112). In Britain the important tumuli of the Roman age in Essex, called the Bartlow hills, must be in the same tradition.

One of the derivatives of the pyramid and the monumental tumulus was the famous Mausoleum at Halicarnassus. It had a pyramid of steps lifted high above a

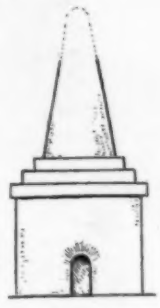


Fig. 2.

columnar structure seated on a tall basement, and it appears to have been the slenderest great building erected by man up to its time. On the apex was a colossal chariot with four horses. The horses are stationary, and the chariot was probably empty. I have little doubt that the apotheosis of Mausolus from the world-mountain was symbolised by the whole composition. The stepped pyramid is probably an echo of the terraced Ziggurats of Mesopotamia. An interesting restoration of this "wonder of the world" has recently been set up at the British Museum, but I cannot think that in any monument embodying ancient traditions the burial chambers would be so exposed as is here suggested on the slender evidence of a curved stone interpreted as part of a big arch.

The "Nereid" Monument at Xanthus is to some extent in the tradition of the Mausoleum, but this was only a little temple-like structure on a high basement. I mention it because several years ago Dr. Six suggested that the sculptures called Nereids would be better interpreted as Breezes, and I am drawn by my general argument to think that this is the better explanation

The Mausoleum probably influenced the design of the great Pharos at Alexandria, built after 300 B.C. It was in stages, and about 350 ft. high. According to Breasted, it followed the tradition of the Ziggurats. "The Pharos tower, the first of its kind, was influenced in design by oriental architecture, and in its turn it furnished the model for the earliest church spires and also for the minarets of Mohammedan mosques. It did not fall until A.D. 1326."

The great altars of the gods, especially those of Zeus, were mounds often of terraced form. The vast altar at Pergamon—"Satan's Seat"—seems to have superseded a holy place on a mountain crest (*Zeus*). Roman pyres appear to have been erected in stepped form, probably not without thought of the sky-mountain, the right place for apotheosis.

The sky was imagined to be supported at the four corners by pillars, or the angles of the walls of the world were the pillars. The sky symbol, resting on four uprights, is often represented on Egyptian monuments.

"In the earliest times heaven was believed to be situated above the large rectangular slab which formed the sky. This slab was supported on four pillars, which were kept in position and presided over by the four sons of Horus. These four gods sat on pillars which subsequently were regarded as the four cardinal points. The stars were believed to be hung from the slab by hooks, like lamps from a ceiling" (*British Museum Guide*).

Dr. A. B. Cook has about 150 pages of the second volume of his *Zeus* devoted to various forms and derivations of sky-props and pillars. This conception of the sky, as resting on four pillars, was widely diffused among ancient peoples. "Neither is the four-pillared sky necessarily inconsistent with one single prop, the *universalis columna*. The [Egyptian] Tet pillar would, I think, be best explained as an abbreviated group of four columns representing the four supports of the sky" (*Zeus*, II, p. 141). I wonder, however, if the four-staged single capital of the Tet may not rather have signified strength.

"We have sufficient evidence to be tolerably sure that the Minoan Sky-god was associated with a high pillar." An engraved gem from Knossos shows a tall pillar rising in front of a shrine, and the central pillar of the Lion Gate at Mycenæ can hardly be any other than a sky-pillar; the small mass above it on which the circles of beam-ends are cut may mean the sky.

In a short section entitled "The Sky Pillar in Sardinia," Dr. Cook illustrates some bronze cult objects which represent four pillars set round a greater central pillar. "It seems probable that the quincunx of pillars rising from a solid base was in effect a model of the sky uplifted above the earth and that the bird resting on the central shaft was the sky-god in feathered form." This bronze object and the description thereof allows of an explanation of a monumental tomb which has long puzzled me—an explanation all the more sure as the cult object and the tomb both belong to the cycle of ancient art in Italy.

The tomb is that of the Horatii on the Appian Way near Rome. It was also known as the tomb of Aruns, son of Porsenna, "and was probably constructed by Etruscan workmen." "It has a basement, 45 ft. square in plan, on which stand five masses of rubble faced with masonry, in the form of frusta of cones, four of which are 10 ft. in diameter at the bottom, and are placed at the four angles of the basement. The fifth stands at the centre of the whole mass and is larger than the others" (Fig. 3).

Pliny gives after Varro an extravagant description of the Tomb of Porsenna. It is said to have "consisted of a basement 300 ft. each way, from which arose five pyramids,

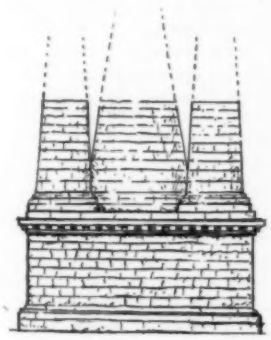


FIG. 3.

united at the top by a bronze circle or cupola. This was surmounted by four other pyramids, the summits of which were again united at a height of 300 ft. from the ground. From this point rose still five more pyramids, whose height Varro (from modesty, as Pliny surmises) omits to state." Fergusson goes on to point out how exactly the tomb at Albano, with its five pillars rising from a square base (Fig. 3) corresponds with Varro's description of the lower part of the tomb of Porsenna. Compare also the five pillars on the tumulus of Alyattes described above. A model altar in the British Museum from Cyrenaica (Fig. 4) is of similar form. The pointed stone shown with it is from Carthage and also in the Museum.

The pyramid of Cestius at Rome, a mass 96 ft. square (100 Roman feet?) and 118 ft. high, has remnants of two Doric columns near two of its angles, and it seems possible that there may have been four. Middleton, however, says: "it is doubtful whether they are in their original positions; they may be part of a colonnade which once surrounded the monument." If four columns were part of the original scheme the monument would be of the type just described. They were shown as isolated columns having Doric capitals in Piranesi's old view. More than thirty years ago, when I studied S. Sophia, Constantinople, I suggested that plain L-like forms at the four corners of Byzantine altars signified the corners of the earth, and I now feel confirmed in this view.

I must follow Dr. Cook again in his in-

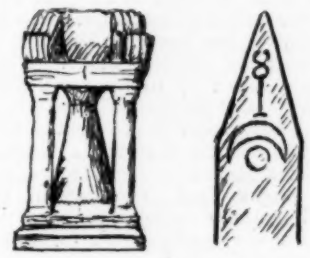


FIG. 4.

vestigation of sky pillars in the north of Europe. The result is that all great monumental shafts such as Trajan's column were probably to some degree sky pillars.

Our Saxon ancestors imagined that the sky was sustained by a great pillar, the *Irminsûl*. "Early man was a practical person; his roof being insecure, he proceeded to shore it up." "The *Irminsûl* was primarily a sky-prop . . . a high pillar viewed as a world pillar or universal support. . . . The *Irminsûl* implies the primitive notion that the sky stands in need of a visible support. Early man was haunted by a dread that it might collapse."

Over the territory once occupied by Germanic tribes are remains of isolated columns dating from about A.D. 200 to A.D. 250, that is, from the time Rhenic Germany witnessed a Romanised revival of its national cults. These monuments are known as Jupiter and Giant columns; they usually consist of the following parts: A square basis with reliefs of deities, commonly Juno, Mercury, Hercules, and Minerva, who probably represent the seasons. On this was a round or octagonal block, sculptured with the gods of the days of the week. Above, again, rose the column which was often covered with a scale or vine pattern "decoration suggesting a tree stem." On the capital were four small heads representing the divisions of the day. Above the capital was a sculptured group of a mounted god and a creature with a human body and serpents in place of legs. "The rider, who has the guise of Jupiter, is none other than the old Germanic sky-god *Ziu*." The giant has been explained as the earth, but, as Dr. Cook observes, earth would be below. It is rather winter and darkness. "The seasons of the year, the days of the week, the divisions of the day, all surmounted by a group representing the triumphant sky-god. We can hardly conceive a better scheme of decoration for the Romano-Germanic *Irminsûl*. It was appropriately dedicated to Jupiter, Best and Greatest. . . . Thus the tribes asserted their belief that heaven, the abode of the sky-god, rested on a world pillar. Their ancestors would probably have held the same opinion in a slightly different form, speaking not of a pillar but of a tree—a notion that still lingers in the cottage homes of their descendants" (*Zeus*, II, p. 87). An inscription found at Silchester appears to refer to the restoration of a Jupiter column, and this has been thought to be the only evidence for the existence of such monuments in Britain. In a study of Roman London, however, I was able to show that the half of an octagonal stone at the British Museum, with parts of reliefs of planetary deities, was part of the basis of an important column of the kind, and that other fragments show that many of them must have existed (*Londinium*, p. 101). A fragment of an elaborately carved shaft, recently added in the London Museum, must, I think, have been part of an especially fine Jupiter column. In our taking-for-granted way, we are likely to think of such monuments as "barbaric" or "superstitious," but they had a meaning and a message. Consider the heavens and the seasons, and compare our worship of columns that have no meaning—idle idols.

For bibliography of the most recent works on "Jupiter columns," see A. B. Cook, *Zeus*, Vol. III, p. 1213. "The Jupiter column has a long history in front of it as well as behind—witness the sacred pillars reverenced by thousands to-day in France and Spain."

Thoughts of the world-tree and sky-pillar passed on into northern Christian story and art. I have more than once pointed out what seemed to me evidence that the famous Ruthwell and Bewcastle crosses were conceived as cosmic trees—and what a fine merging of symbolism it is!—rising from the underworld, where the old serpent writhes, to the heavenly cross-head sculptured with the Lamb and the four watching creatures. I now find that Dr. Cook, quite independently, supposes the Gosforth cross to be such a tree. "The monument is carved to look like a tree; the bole is patterned as if with bark. All four sides where the trunk has been, so to say, squared, exhibit carvings susceptible of a two-fold interpretation, either Scandinavian or Christian" (*Zeus*, II, p. 305).

Ancient architecture had a meaning and a message; it was religious, magical, symbolic and cosmical. It is the large content of it in these senses that makes it quite a different thing from the commercial grandeurs in the ecclesiastical and department-store "styles" of the present day which we call by the same word, "architecture."

MEETINGS

SATURDAY, *May* 5.

Association of Architects, Surveyors and Technical Assistants. Visit to Union Cold Storage Co., Ltd., Nelson's Wharf, Lambeth. 11 a.m.

MONDAY, *May* 7.

Royal Institute of British Architects. Annual General Meeting. 8 p.m.

TUESDAY, *May* 8.

Institution of Civil Engineers. Annual general meeting. 6 p.m.

WEDNESDAY, *May* 9.

London Society. Annual Dinner. At the Hotel Victoria.

THURSDAY, *May* 10.

Institution of Structural Engineers. Mr. E. Copeland Snelgrove on "Some Points Concerning the Design of Concrete Tanks." 8 p.m.

EUROPEAN AND MOORISH ART

Sir Banister Fletcher, F.S.A., F.R.I.B.A., in the course of a lecture at the Central School of Arts and Crafts, on "Spanish Mediæval Architecture," said in sunburnt Spain climate played a very determining part in producing small windows and darkened interiors. Spreading traceried windows of glowing coloured glass were elsewhere the great glory of Gothic architecture; in Spain this intricate tracery was transferred to the surfaces of the solid walls and vaulting. This supplied a marked instance of the influence of nature on art. Spanish Gothic followed in some respects that of France, owing to its geographical position, as might be seen in the interiors of the cathedrals of Burgos and Toledo. Spain was, however, susceptible to divers other influences, and had also Moorish infusions from the south, due to the long occupation of the Moors in Spain. This influence resulted in a complexity and intricacy of ornament and even vaulting, owing to the geometrical skill in design of the Mahomedans. The influence of other countries was seen, and reminiscences were to be found in Spanish cathedrals of Italian and even German Gothic art.

THE ROYAL SCOTTISH ACADEMY

The Royal Scottish Academy opened its 102nd annual exhibition on Saturday, April 21. The exhibition throughout is an interesting one. A good deal of the rather limited space is allotted to loaned work of deceased artists and invitation work from other centres. No doubt this adds to the interest of the show, especially in providing an opportunity of seeing contemporary work from other centres, but it robs it to some extent of its importance as an exhibition of Scottish work.

Sculpture.

In the Oil and Water-colour section there is a very interesting collection of Sargent's work, and in the Sculpture Room considerable interest is provided by a group of French work. The most striking thing in this group is a bust of Ingres by Emile Antoine Bourdelle—a head and neck rather over life-size growing out of a rough mass with just a suggestion of a garment on one shoulder. The face is almost repellent, but it is one of the most potent things ever accomplished. The broad treatment of the hair, massive almost clumsy modelling of the neck, and suppression of all superfluous detail, all help to make this most impressive. A statuette, "Femme en blouse," by the same artist, is in its way as strong but not nearly so interesting.

The "Buste de Cèzanne" and "Misére en Hiver" by Madame Vieil-Noë Tessier are admirable. The former is very forcible, and the latter literally makes one shiver in sympathy. The hunched up figure of the woman is full of pathos. "Leda," by Jules Desbois, is not so interesting as most of this artist's work. The modelling is good but the lines of the composition are not very satisfactory. Madame Marie de Prësalè shows a beautifully modelled and interesting head.

It is pleasing to see a carving in a hard, yellowish limestone in the bust of Jules Grün by Auguste Maillard, though the execution seems almost too faithful and delicate for the rugged material. His "Prière D'Amorique"—a girl at prayer—is a wonderful piece of rapt expression. Paul Landowski's "Les fils de Cain" is a very fine piece of work consisting of three separate figures not composed as a whole but each forcibly modelled, particularly the "Poet."

The sketch for the monument to De la Croix (the original is in the Luxembourg Gardens) is one of Dalou's latest and least successful works—a case of good modelling wasted. As a monument it is a failure and restless to a degree. Father Time holding up "Fame" has his hands uncomfortably full.

Albert Bartholomé shows an interesting little statuette of a bather. Arthur Walker contributes two figures: "A Monk in Prayer" and "Grief"—the latter is very expressive of the theme. In "Brynhilde," Gilbert Bayes shows one of his excellently modelled horses almost worn out by its uphill effort.

Dr. Pittendrigh Macgillivray's "Mrs. Phœbe Traquair" is admirably carried out as regards the head, but it would be pleasanter if relieved of the dull costume details. "Taneu," by the same sculptor, is an expressive and beautifully poised head.

W. Reid Dick's "Silence" is spoilt by the figure being lost in drapery — certainly meritoriously simple but not very satisfactory. His head of Frank O. Salisbury is more interesting.

Sir W. Goscombe John shows a head of Lloyd George and "A Drummer Boy"; the latter is a very spirited figure with a weight of anxiety on his face, sitting on an over-complicated heap of military wreckage.

Mr. H. S. Gamley has two portrait busts treated in a pleasant, straightforward way, the one of Mark Sanderson being the better. "Echo," by David Alexander Francis, is a well-modelled girl's head full of rather wistful expression. Miss Margaret Finlay contributes a delightful statuette of a young girl carrying a child—"The Bathers." The pose, the suggestion of real limbs below the thin garments, and the simple treatment of the hair are alike excellent.

Mr. Percy Portsmouth is a sculptor whose works appeals to architects. It is a little staid, perhaps, but has almost always just that fine sense of mass and repose so essential to work either monumental or to be used on a building and itself to be cut out of a hard intractable Scottish stone. This year he scarcely seems up to his usual standard. He gives us a "Scottish Fishwife" with a fine head but rather overweighted with the cumbersome though picturesque clothes. "A Design for a Memorial"—in an architectural manner—might look well when suitably placed, but there appears to be a want of support for the upper figure. His best contribution is "Vision," a life-size male figure looking up and away into the beyond; there is plenty of life in this and yet a dignified repose.

"The Appeal," by Benno Schotz, is a delightful statuette of a kneeling woman full of emotion. Mr. Birnie Rhind shows a small head of the late Lord Salisbury, and a design for a monument rather on the lines of the Gambetta monument in Paris. It is altogether too complicated; neither "Victory" nor anybody else ever looks really comfortable perilously standing on a ball. William Lamb's "Three Fishermen" are very vigorous. "La Lionne Devorante" by Bugatti, and "Jaguar and Cubs" by E. M. Alexander are both good studies of animals. Miss Phyllis Bone's model of a spirited little faun holding a squirrel is just right for a garden figure.

Wood Carvings.

Mrs. Meredith Williams gives us Saint Barbara, the Patron Saint of Architects, holding a model of the Scottish War Memorial such as one might find in the portals of a French church. It is well executed, and the brilliant colouring would look satisfactory with the right surroundings. Mr. Norman Forrest's "Morning," in limewood, is good.

Architecture.

In the aggregate one cannot help a little disappointment with the Architectural Section: The buildings illustrated are mostly not of first-class interest, but that may be the misfortune of the Scottish architects in the lack of outlet at the present time. Another regret is that there is no example of the work of the President, Sir G. Washington Browne, than whom there is no better exponent of dignified classic work—certainly in Scotland, probably in the country.

Unquestionably the most interesting exhibit is Sir Giles Gilbert Scott's Charterhouse War Memorial Chapel.* The drawings are plain working drawings, with no attempt at the pictorial, and give little idea to the layman of the beauty and fine mass of the building, recalling as it does some of the Spanish churches. The plan is very simple, a long rectangle with an ante-chapel at the west end, porches at each corner and a semi-circular apse. The building is of a great height, and vaulted in one span. The windows are long lancets, so deeply recessed that, looking from the entrance, you find the building flooded with light without the side walls' surfaces appearing to be broken. The walls are thickened out near the bottom, with pent roofs and small mullioned windows, which are perhaps a little small in scale for the weight above. Seating is arranged along each wall facing the central gangway—the organ half on each side of the building midway along the nave.

There are three churches by the late Archibald Macpherson, rather Romanesque in feeling, showing a very skilful adaptation to the severely simple and economic requirements of the present day.

Mr. Reginald Fairlie shows a forecourt and terrace treatment for an old Edinburgh Church and a Church at Rothesay. The masonry of the latter is massive; indeed, in the cloisters rather oppressive—the timbering of the open roof seems too light in contrast with the masonry: neither is as interesting as most of Mr. Fairlie's work.

Mr. H. O. Tarbolton shows several exhibits of very scholarly church work. The Lady Chapel at St. Peter's, Montrose, is a plain plastered building depending on its simple lines and plaster surfaces to provide a background for a rich altar and reredos: the latter takes the form of a triptych of carved gilt wood, excellently designed and painted by Mr. and Mrs. Meredith Williams. St. Bryde's Church, Glasgow, is on fairly traditional Gothic lines; the marble base of the pulpit does not seem happy in the photograph.

The three rather uninteresting drawings by Mr. J. N. Comper give no idea of his good work. Kirriemuir Church, quite dull in the drawing, is, in fact, a most attractive Gothic church in a free and unconventional manner, only spoiled by the over-complicated parapets. The inside is particularly good Messrs. Temple Moore & Moore show a number of small country churches and some memorial cloisters at Lancing, all of which are interesting.

Sir Robert Lorimer shows a chapel for Stowe school—a plain rectangular building with a portico at the west end rather reminiscent of some of the London churches. The side columns, placed as they are, will certainly leave a clear view from the seating, but they seem rather unnecessary. There is a flat ceiling extending about one quarter of the span from each wall, then rising as a barrel in the centre. Mr. F. C. Eden's rather Italian church should be delightful.

Among public buildings, Messrs. F. C. Mears and C. D. Carus-Wilson show a good perspective for the League of Nations building, though perhaps a little more suggestive of an arsenal than a Peace Palace. It is treated in large cubical masses, and the relation of these, and especially the tower, is skilful. The interesting tiled roofs on the angle pylons are a welcome relief to the rather frowning masses.

Two sets of drawings are shown for the Scottish Legal Life Building, Glasgow†—one, by Messrs. Wylie, Wright & Wylie, is a rectangular block on sound lines, but there is rather an unnecessary amount of not very interesting detail. Mr. James B. Dunn's scheme is also a simple rectangular mass, but the upper portion does not seem to sit well on the lower, which is overburdened by it. It also seems to ask for a parapet or roof to show. The half-inch detail of the central part is good.

Messrs. Watson, Salmond & Gray's perspective of the entrance to the Glasgow Municipal Buildings is good; the proportions of the long lines of rustication on the street floor and the order running through the upper floors (on the lines of the Place de la Concorde) are well managed. Messrs. Thoms & Wilkie show a perspective of a new school at Dundee. No plan is given to explain why they adopted the expedient of setting the frontage back in a rather unpleasant skew line. We can only imagine there was some good reason, as such a plan always gives awkward shapes to deal with inside. Sir John Burnet shows a perspective, by Mr. T. S. Tait, of Lloyds Bank Head Office.‡ It is a great mass of building and has a certain

* Illustrated in *The Builder* for June 17, 1927.

† Illustrated in *The Builder*, September 2, 1927.

‡ Illustrated in *The Builder*, January 14, 1927.

weight and dignity. The building is roughly divided into a couple of too nearly equal sections, each of three stories, and double-recessed attic stories. The lower part has a line of arched window openings running through two stories, with small windows over. Planning in the city is no easy matter, and doubtless there were reasons for the two squat, square doors, but they certainly crowd the elevation unpleasantly and break the vertical lines of anything above. The upper part consists of an order of fluted pilasters running through the three stories.

Of local interest, Messrs. Bradshaw Gass & Hope's winning design for the Leith Library and Public Halls is very skilful in plan, dealing with an awkward and difficult site. The library is placed on the street front, with news and reference rooms right and left of the entrance vestibule, and the lending room immediately behind, so that the whole can be easily supervised. The two halls, large and small, are placed at the back of the site, approached by a circular road behind the library. The halls communicate, but each has a separate entrance and crush hall. The elevation of the library is simple but satisfactory; the elevation of the halls hardly so good, but this, after all, is a back block.

Messrs. A. N. Paterson & Stoddart show a small but very happy Branch Savings Bank. It is a small stone building of one story, with a hipped roof. On both the elevations, visible from the street, there is a central feature containing a large window, breaking the line of the roof with a short parapet. There is little ornament, except two admirable vases. At each side of this feature is an arched opening containing the entrance and balancing window.

There is not a great deal of domestic work—Messrs. Orphoot, Whiting & Bryce show an amusing model of a moderate-sized seaside house suited to the British climate, but frankly drawing some inspiration from the Mediterranean. The house and garage, which had to be built on a 50 ft. square at the upper end of the site close to the road, are grouped round a small entrance courtyard high above the road. There is an arcaded way in, and only office windows look to this yard—all the living rooms and kitchen being placed to get the view in the opposite direction. This firm also shows photographs of a number of pleasant houses.

Messrs. Watson, Salmond & Gray have a perspective of a Nurses' Home which is quite admirable. It is a plain white building, with hipped slate roofs arranged round a courtyard. The side wings are slightly set back so that the centre, with its hipped roof, forms a sort of pavilion, broken only by a small gable over, and accentuating the entrance. It is just the dignified yet homely building such a place should be.

Mr. James Miller's Forteviot Village is a very pleasant quadrangle treatment, with long, low casement windows and green trellis—frankly an intrusion from the south, but none the less good. It is a pity the roof had to be so much broken up, but no doubt this was in some measure due to Scottish building regulations, which are sometimes unnecessarily exacting as to window heights.

Among smaller exhibits there are two good memorial tablets by Mr. Sydney Miller, a good Cross by Miss Bone, and a photo of a stained-glass window for Lismore Church by Miss M. I. Wood, which promises well.

The Phyllis Court Club, Henley.

The committee of Phyllis Court Club have in view the erection of a large addition to their club premises in Marlow-road, including 40 bed- and bathrooms, a large banqueting hall, bathing pool, additions to the restaurant, etc. Plans have been prepared by Mr. J. J. Joass, F.R.I.B.A., 40, St. James's-place, S.W.1, and are now under consideration.

THE TOWN PLANNING INSTITUTE

Town Planning in Sweden.

Mr. Montagu Harris (President) occupied the chair on April 20 at Caxton Hall at a general meeting of this Institute when Dr. A. Lilienberg, City Town Planning Engineer, Stockholm, gave a lecture on "Town Planning in Sweden."

Dr. Lilienberg, whose remarks were illustrated by a large number of lantern slides, said that the towns of Sweden were neither many nor great. In the thirteenth century there were about 20, in the sixteenth about 80, and now there were about 120. The greatest of them was now Stockholm, with nearly half a million population; next Gothenberg with 250,000, Malino with 130,000, and so on. But though not many or great they were, from the town-planning point of view, of a certain interest. All the older Swedish town planning was just as interesting as the new, but he would first give them some notes on the history of their town planning. Since the beginning of the sixteenth century towns in Sweden had been built according to fixed plans. A great number of towns were laid out in the beginning of the seventeenth century by the order of the Sovereign, and the Royal Charters were usually accompanied not only by drawings and plans, which were to be followed, but also by regulations as to how the towns, generally speaking, were to be built. The Swedish towns during the seventeenth century derived their special interest, amongst other reasons, from their formation, according to the principle of regularity. The Italian theorists who prepared ideal plans for towns found their theories put into practice to a very limited extent in their own country, which already possessed so many old towns. It was in the northern countries that their theories were realised in the laying out of new towns, although in a more or less military emphasised form. The military were the foremost city builders in those days.

In the case of newly laid out towns, as well as in those already existing, a grant was made of the ground required by the inhabitants for their future main needs of sustenance, and in this they saw the beginning of the great land properties usually owned by Swedish towns. As a consequence the governing power in Sweden had a very direct and powerful influence on the planning life and future of the towns. There was a long period of transition in Sweden, which might be said to have its actual beginning in the public law of 1734, which did not deal with the building of towns, and which lasted until a town building law was forthcoming in 1874, or 140 years later. But during those 140 years of waiting building operations were fortunately of such a comparatively insignificant nature that they did tolerably well with royal circulars and building by-laws for the various towns, and, as a rule, by working out the plan for the development of a town and submitting it to the King for confirmation. In several cases these urban building by-laws contained not only technical stipulations, but also certain general ordinances for the regulation of the economic relations between the communities and the private landowners, such as by-laws concerning the surrender of property by compulsion for the carrying out of street arrangements. But after the introduction of the Ordinance of 1845, concerning general expropriation, most of the requirements of street arrangements were given.

In the middle of the nineteenth century the towns began to develop more rapidly, and in 1860 large extension plans were made for Stockholm and Gothenberg and other places, which were followed by a large number of plans for smaller towns. As a good specimen of town planning and development of a town founded in the seventeenth century Gothenberg might be mentioned. The plan on which the city was laid out in 1620 was the first one of a great series of Swedish town plans designed in the seventeenth century. The new city, it was hoped, would become the centre of the country's western trade; and it was quite natural that the lay-out should be specially influenced by the methods developed in the Dutch cities. The centre of the city to the present day was still built upon the plan which could be adapted to modern conditions by filling in some of the canals and creating spacious streets in their place. It was not until the beginning of the nineteenth century that the first effective steps for extending the city were taken. This came through the decision to raze the fortifications; in 1808 a town plan was sanctioned for the area which by these means was available for building. Similar to the first plan for the city in the beginning of the seventeenth century, the plan of 1808 opened a new epoch in Swedish town building. The new plan, amongst other things, included for the first time in Sweden a boulevard. This had to be built in its entirety; it was the circular avenue which ran parallel to the moats, and was now named Nya Allén in contradistinction to the Gamla Allén running south.

Conditions in Gothenberg about 1860 were getting such that a further increase of the city's building grounds had to be looked for, and for this purpose plans were drawn covering the whole of the city's southern territories. A town-planning competition was advertised in 1862, and in the following year a committee proposed a town plan based on the results of the competition. With a few minor alterations the plan received Royal sanction in 1866. The main part of the city built since then had followed this plan, and they were consequently at the third epoch in the planning of the city of Gothenberg. The plan of 1866 was a typical example of the city's building ideals of those times, and its designers had manifestly not been unaware of the plans for Paris by Napoleon and Haussmann.

The desire to get stability and uniformity into the by-laws of the building at the various places now became inevitable, and forced on the Building-Law for Towns of 1874. This Act embraced only the technical regulation for the planning and building of towns in conformity with the requirements of hygiene, comfort, communication, and protection from fire, but a law for the regulation of the judicial differences that might arise between the different economic interests which were of a conflicting nature in the execution of the town plan was not forthcoming until 1907. So far as he knew the law of 1874 was the first building and town-planning law applicable to a whole country ever drawn up. Now the law was old, but he believed that in many respects it was still a pattern for a law of this description, since it was dictated by a broad regard for the requirements of the citizens for easy communication, comfort, light, and air. The law began by saying: "It shall be the duty of the Building Commissioners to see that the law and the urban building by-laws are enforced, and to deal with all those matters to which the law and the by-laws apply." It was expressly enacted that the Commission should take care, "That all possible improvements shall be carried out in the town plan and that the arrangements introduced in it shall be carried fully into effect; that the regulations respecting sites for buildings shall be fully enforced so that sites may be of adequate size; that the plan for each site shall provide for a spacious and wholesome yard, and that all such provisions shall be included in the building by-laws as are necessary to ensure the suitable development of the town." It further provided that for every town there should be prepared a plan for its general arrangements and of the buildings within it, including the streets, markets, and other public places."

The town plan had to be adopted by the town authority and finally submitted to the King, who had to approve or refuse it—unless the matter in question was of small importance, in which case the plan as approved by the local government might be carried into effect without submission to the King. All the town plans had to be carefully drawn on the scale of one two-thousandth part of the actual dimensions. On the plan or on a supplementary plan particulars of the height and slope of all parts of the ground had to be indicated, and the plan had to be accompanied by the necessary explanations.

In new towns or new districts of towns streets must, as a rule, have a width of not less than 59 ft., but where special circumstances make exceptional treatment desirable short streets might have a width of not less than 39 ft. Within a period of, at the latest, two years from the coming into force of the law there must be prepared for every town in the kingdom a statement showing for what parts of the district a plan had been prepared, or if it was intended in accordance with the law, to extend the scheme to some districts of the town. The plan and statement had to be submitted to the King for approval. When a new plan was prepared or an existing plan altered due regard must be paid to the future regulations of other town districts which might come into existence so that a harmonious arrangement of the whole town might be obtained. Since the passing of the law about 4,000 plans had been made and received the sanction of the King, and it was obvious that it had been very valuable to the Swedish towns. A private landowner could not send a plan to the Government for approval, but had to apply to the surveying department of the town, but the Town Council had the right to make a scheme for a part of the town without any request from the owner. In carrying out such plans a good deal of friction might arise, and endeavours were made to obtain special regulations to obviate this. In 1907 a law was adopted which to some extent had influenced the English Town Planning Act of 1909.

This Swedish Town Planning Act was very clear and distinct, beginning with a definition of the word "scheme," and providing that special and general regulations with regard to the use of the building plots might be adopted and approved in connection with the plan. In the general building regulations provision had to be made, for instance, as to the heights of buildings, whether they should be in blocks or detached, the prohibition of industrial establishments to be erected within the dwelling districts, and *vice versa*, prohibition of buildings on certain parts of a building area intended to be front gardens or unoccupied yards, the maximum number of families a house might accommodate, and so on. The towns were responsible for enforcing the observance of the schemes and building regulations, and the local authorities were given all powers needed. To facilitate the working out of a scheme of shop speculation the community might make a claim prohibiting the erection of buildings on a certain area that was to be planned. In Sweden such restraint could not be imposed for a longer time than six months, whilst in Saxony it might last for two years. No new building must be begun during the time intervening between the adoption by the town of the plan and the approval by the King, and no obligations were imposed on the town on account of eventual alterations in respect of the conditions of ownership that might have arisen since the community adopted the plan. The cost of the carrying out of the plans was divided between the landowners and the community, and the law took it for granted that not only the town but the private owners would derive benefit from the scheme being carried out. The burdens were divided, therefore, in this way: the landowners had to bear the cost of the street ground up to the normal width, 59 ft., whilst the town had to pay for all the ground over this normal width. Further, the obligation to construct the streets as the building of houses proceeded fell on the town, but it had no obligation to furnish them with water or drain pipes. Finally, the town had to unify the plots belonging to different owners as to accord with the units fixed by the plan and the division of sites. The town had, however, no obligation immediately after the ratification of the plan to make itself the owner of all the street ground, as such an obligation would involve the advancing of a large capital sum, on which it would be unable to obtain any return for a long time. The law had, therefore, made the town liable to redeem street ground chiefly only in the following two instances: (1) When the owner, after detaching the street ground, had not a whole site left on the side of the street; (2) when the town had objected to effect the laying out or the widening of a part of the street an obligation which in the former instance was incurred only when one-third of the lines of a building area was built on, and in the latter as the widening was being made.

In carrying out a scheme Swedish towns were greatly helped by being allowed to acquire the right of expropriation, not only for the carrying out of a complete plan, but also of a whole town district, where it was insanitary or overcrowded. Such right the town also had on vacant land if the owner thereof was holding part of it for building to the detriment of the development of the town. The right of expropriation might also be acquired by a town in order to secure main roads for traffic over certain districts not included in the town plan. With regard to such districts the town had the right to get general rules laid down relating to the building thereon without the necessity of drawing up a scheme for the streets. That part of the latter Act to regulate the judicial differences between the town and the landowners had not yet been much used, because most of the difficulties had been settled by negotiations between the two parties. But even for such negotiations the law had a great importance, as it once for all defined the rights and obligations of both parties.

Mr. T. P. Frank, who proposed a vote of thanks, said that the author made reference to provision for harbours in modern town planning, but he did not say if provision was being made for aerodromes. It had been suggested in the *Times* that town planners in this country were not making provision for aerodromes, but in many schemes this was being done in accordance with the wishes of those responsible for aviation.

Mr. Raymond Unwin seconded the motion, and said that he knew nowhere where one could see such striking examples of the masterly combination of the works of man with the works of nature than in Sweden. Dr. Lilienberg had that particular genius which enabled him to see the big things and care for the little things, and weld them together in one great scheme.

The motion was carried and acknowledged by Dr. Lilienberg, who said that provision for aerodromes was made in town planning schemes in Sweden. The wide belts of land left in cities were partly for fire protection.

Canadian Building Activity.

According to the High Commissioner for Canada, unprecedented activity in construction in Canada is indicated by contracts awarded during the first quarter of the current year, which total $69,301,300 according to MacLean Building Reports, Ltd. Construction contracts awarded in Canada for March alone totalled $22,946,100, which exceeds March, 1927, by 21 per cent., and is the largest total for that month since 1914.

THE PICCADILLY THEATRE

The Piccadilly Theatre, which was opened last week, has been erected at the corner of Sherwood and Denman-streets, near Piccadilly Circus. It is of the popular intime type, providing seating accommodation for 1,200 persons only. The house is divided into stalls, dress-circle and upper circle, and a clear view of the stage is provided from every seat. There is no gallery. Comfortable tub seats are fitted throughout the theatre. Ample exits are provided, there being five feet of doorway for every seventy-five persons. A special feature is the system of heating and ventilating. By the method employed, fresh air, washed and warmed to the required temperature, enters the auditorium from the roof and is extracted from under every seat. Overheated air and tobacco smoke thus cannot rise, which is a great advantage in a theatre to be given over to the production of musical comedy.

"Back stage" there are over forty dressing-rooms spread over five floors, and all connected by lifts. The stage, although not exceptionally large, is fitted with every known modern appliance, including a system of flood-lighting and electric counter-weighting of "tabs" (the battens to which the scenery is attached) that is comparatively new to this country. Some features new to London theatre planning are incorporated in the structure. For instance, a special ladies' buffet and retiring-room have been provided, while a feature of the general bars is the extreme length of counter. Cloakroom and lavatory accommodation is on the same generous scale, these apartments being decorated pleasantly with a glazed wall treatment.

Internally the theatre has for its colour motifs eau-de-Nil and gold, which, with the help of darker decorative panels around the well, give a cool, refreshing and yet cosy appearance. A principal source of artificial lighting is a crystal ceiling light, set in a shallow elliptical saucer dome, which is also illuminated by concealed lighting. Dainty Japanese designs are used to adorn the fronts of the boxes and circles. These have been painted by the Japanese craftsmen of Messrs. Marc-Henri and Laverdet, of Paris, who, under the direction of the joint architects, are responsible for the decoration. Portland cement has been used for the exterior, which is modern in that it carries no superfluous detail. Some fine walnut wood inlay is being used in the front of the house and foyers which produce a warm, pleasing tone.

Messrs. Bertie Crewe and E. A. Stone, F.S.I., were the joint architects for the theatre, and the general contractors were Messrs. Griggs & Son, of Westminster, who have given special attention to cinema and theatre construction.

Following is a list of the sub-contractors:—J. Jeffreys & Co., Ltd., ventilating; A. D. Dawnay & Son, steelwork; The Berkeley Electrical Eng. Co., electrical work; H. E. Gaze, Ltd., plaster work; Mr. J. A. Eshelby, entrance hall, foyers, saloons and staircases; Bagués, Ltd., chief electrical fittings; Starkie Gardner, Ltd., ceiling lights, canopy, etc.; F. Knight & Co., handrails and door furniture; Leeds Fireclay Co., sanitary appliances; Shoolbreds and Geo. Pixton & Co., seating and carpets; Bell's Poilite and Everite Co., wall lining of lavatories; The Door Unit Co., doors; Brookes, Ltd., marble work; Merryweather & Son, fire extinguishers and appliances; Mr. L. D. Wood, soda fountains.

The New A.R.A.s.

At a General Assembly of Academicians and Associates held on April 26, Mr. Gerald L. Brockhurst, painter, Mr. David Muirhead, painter, and Mr. Harold Knight, painter, were elected Associates of the Royal Academy.

AMERICAN ARCHITECTURE—II

CONCLUDING his lecture at the Royal Society of Arts, Adelphi—the first part of which we published in our last issue—Mr. Alfred C. Bossom said that early American skyscrapers were seldom great financial successes, due to the lack of knowledge of how to design them. Many were quite poor investments. Later, the architect, to be successful, had to be a very sound business man, capable of calculating accurately how tall a building would pay in any town or place, and the more expert he became at this financial side, the more important his practice became, and that was perhaps why successful architects were so highly respected in the U.S.A. Of course, each of these early buildings made their owners very conspicuous, and that caught the eye of the keen speculators who thought they saw possibilities of money being made from those new-type buildings, and from such men, mostly bankers, came one of the real contributions the construction of skyscrapers had made to world industry. They saw that the buildings to be money-makers must be constructed quickly due to the great interest charges involved, for the cost of these buildings was so tremendous. The mere crowding of men on to the job would not do this, and the lecturer thought that the credit was largely due to Mr. F. D. Huntington, a Canadian, who was the first man to devise a workable schedule of building progress just after the beginning of this century. It was very primitive in those days, but the plan was to arrange that everything should be brought to the building at the right time. Since then that plan had been developed and was worked out graphically—often before the building contract was signed and before the first spadeful of earth was turned on the ground. American buildings were not built in the usual English sense, but were assembled; every part coming to the building practically complete, only waiting to be put into position and affixed to its adjoining elements.

The progress schedule showed the date when every portion of the work should start and must finish. It indicated the number of men required in each trade or work so as to get each section finished in time; it showed the general contractor when he must let all of his sub-contracts, and when the material must be at the site ahead of the time needed and yet not so far as to encumber it with unneeded material.

But other things were taking place. Those banker owners insisted the buildings be financial successes and they pressed the architects to cut down all decoration. Cornices of 10 ft. projection had not been unusual, but were certainly expensive. Clients insisted in reducing these. They slowly pressed back all projections to save materials, which also meant saving money, until finally there was little left beyond thin bands on a brick wall, and that was the time when skyscrapers looked like huge packing-cases with holes cut in them for windows. At the same time those clients endeavoured to cover the land as much as they could, thinking they would squeeze more return from their investment by so doing, and it was during that period that the world-famous canyons of Broadway and Wall Street were built. Nearly every room up to the 6th floor of those older buildings had had to be lit by artificial light ever since.

Slowly a great deal was learned, and as it was not desired to ruin the great cities by overcrowding them with structures or by putting up bad ones, the City of New York passed a Zoning Law in 1916. That was an American interpretation of the law of ancient lights and had a great sense of justice in it as it applied equity to everybody instantly by rule, which could hardly be said to be the case with its parent, the English Law.

The impression had gone around that America was filled with skyscrapers. There were a tremendous number, but America was a tremendous country, and the average height of Paris at the present time was about one and one-fifth stories higher than the average height of New York, for practically every building in Paris was six stories high or more, whereas the skyscrapers in New York were in masses in the centre of the city, whereas the remainder of the community was only 4, 3 and 2 stories high. American buildings were arranged to meet a 20th century condition. Many European buildings were built to-day as well and as perfectly as they were 50 years ago, but really did not provide

Liberty Bank of Buffalo, Buffalo, N.Y.
MR. ALFRED C. BOSSOM, F.R.I.B.A., Architect.

for the future introduction of many improvements which were certain to come. The skyscraper did that in two ways. It was calculated on a financial plan that enabled it to be scrapped, if desired, within a period of thirty years at most should the new inventions become too numerous to incorporate within the existing building, and it also arranged that all pipes or conduits for utilities, heating, electric work, etc., were placed in open chases or channels, and could be removed without destroying the structure.

These great buildings had developed many new industries. Steel might be taken as an example. Skyscrapers had proved that if columns be placed about 20 ft. apart, it was possible to work out a steel construction arrangement that would allow the widest possible elasticity of interior arrangement, and so the rolling mills made sections, i.e., beams that could be used with practically no handwork upon them, which resulted in the minimum of expense and maximum of speed in construction. Steel door architraves, windows, etc., came to the buildings all ready and only have to be stood in position, saving at least two-thirds the time taken to set ordinary door frame architraves, etc., and were permanent and indistinguishable from the old type when painted. Open plumbing of America was a byword. The handwork on lead pipes was entirely eliminated; it is all comparatively standardised; steel or brass pipe was used and the work was done by the plumbers in their shops under convenient and comfortable conditions and all reasonable labour-saving devices were provided.

As to lighting, where that had to be artificial, it was usually the equivalent of artificial daylight with the red component which was the cause of eyestrain eliminated, and the blue and yellow introduced to cut out one of the chief causes of nerves and headaches. Ceilings were treated with absorbent plaster to prevent the worry created by the tapping of typewriters and adding machines, and at least two-thirds of the undesirable sound was suppressed or absorbed. As to ventilation, fresh air was pumped from the roof—washed and warmed—and then driven where required.

American building method was so organised that a skyscraper costing a million pounds could be completed satisfactorily in 15 months; we could easily work up to the same speed if we wished, and it meant that the benefit of income from the new building was available so much quicker.

Identical buildings to-day had the same total cost in New York or London. If we took an example of a building costing one hundred thousand pounds, in England we should spend sixty thousand pounds on materials, and forty thousand pounds on labour salaries, but in America the reverse would be the case, i.e., forty thousand pounds for materials, and sixty thousand for labour, the unit cost of material being the same on both sides of the ocean. That meant that our building law and building practices were of such a nature as to compel us to use 20 per cent. more materials in our buildings than would be the case in the U.S.A. Again, the men worked equally hard in both places, but the man in England got a trifle less than one-third as much per week for his effort as the mechanic in America, and what was more—due to a certain lack of organisation, waste of time and absence of labour-aiding devices and obsolete methods—he had to work nearly three times as long to complete the building. If we would consider those facts and revise our building laws, we could easily pay our mechanics half as much again. have them work no harder and yet have buildings completed in less time and at much lower cost. We would easily make a tremendous saving, quite possibly 25 per cent. if we used materials as needed and not as dictated by obsolete traditions, which have passed for ever, and if we gave our mechanics aids and appropriate information.

A consolidation act for all English building laws should be insisted upon. The L.C.C. to-day was building its own housing work outside the administrative county of London on a cheaper basis than it could allow anyone else to build or could build itself within London's limits, due largely to the London Building Act not being up to date.

Building would become an attractive investment and there would be more buildings built. Obsolete structures of no artistic or historic interest would not be used long after their years of usefulness had passed.

The traffic situation could also be aided. Provision could be made to have pavements in future inside instead of outside the building walls when the vehicular traffic made the existing roadway widths insufficient; hanging bridges across streets where the traffic was dangerous to the pedestrian, and walking balconies on the first floor level to form a pavement above the roadway were also possible. That would increase the value of our buildings and our architects were fully clever enough to make them of satisfactory appearance. We could, through building, aid our basic industries, help unemployment and bring British prosperity nearer again and without sacrificing any of those things so dear to all of us.

SOCIETIES AND INSTITUTIONS

BERKSHIRE SOCIETY OF ARCHITECTS.

The eighth annual meeting of this Society was held at Reading University on Wednesday, March 28. The officers for 1928 were elected as follows:—Chairman, Mr. G. B. Willcocks, F.R.I.B.A.; Vice-Chairman, Mr. J. T. Saunders, F.R.I.B.A.; Hon. Librarian, Mr. H. Whiteman Rising, F.R.I.B.A.; Hon. Treasurer, Mr. W. R. Morris, F.R.I.B.A.; Hon. Auditors, Mr. A. S. Cox, L.R.I.B.A., and Mr. E. P. Morgan, L.R.I.B.A.; Hon. Secretaries, Mr. W. J. Freeman, A.R.I.B.A., and Mr. E. Steward Smith, A.R.I.B.A.; Four Members, Mr. W. Roland Howell, F.R.I.B.A., Mr. Harry Hutt, F.R.I.B.A., Mr. A. B. West, F.R.I.B.A., and Mr. W. W. Roberts. Vice-President and eight representatives of the Berkshire Society of Architects on the Council of the B.B. and O.A.A.:—Mr. G. B. Willcocks, F.R.I.B.A. (Vice-President); Mr. J. T. Saunders, F.R.I.B.A. (Reading), Mr. W. Roland Howell, F.R.I.B.A. (Reading), Mr. Harry Hutt, F.R.I.B.A. (Reading), Mr. F. A. Woods, F.R.I.B.A. (Maidenhead), Mr. W. R. Morris, F.R.I.B.A. (Reading), Mr. B. H. Sutton, F.R.I.B.A. (Lambourn), Mr. W. J. Freeman, A.R.I.B.A. (Reading), and Mr. H. W. Rogerson, L.R.I.B.A. (Reading).

After the meeting a lecture was given by Mr. F. R. Yerbury, F.R.I.B.A., on "Dutch Architecture," illustrated by many lantern slides showing interesting examples of old and modern domestic work.

DEVON AND CORNWALL AUCTIONEERS AND SURVEYORS.

The Austrian Ambassador in London will be the guest of honour at the annual banquet of the Devon and Cornwall branch of the Incorporated Society of Auctioneers and Landed Property Agents at Plymouth.

THE ESSEX SOCIETY OF ARCHITECTS.

The March general meeting of the Southend and District Chapter was held at the School of Arts and Crafts. Mr. D. H. Burles (Chairman) presided. The Chairman called upon Major H. P. G. Maule, D.S.O., F.R.I.B.A., to address the Chapter. Major Maule took as his subject "The Architect and the Spirit of the Age." Mr. Norman Evans proposed a vote of thanks to the lecturer, which was seconded by Mr. A. J. Connabeer, Principal of the School of Arts and Crafts, and supported by Mr. Martin-Kaye, Hon. Secretary to the Chapter. An animated discussion on several points in the paper took place. The vote was carried with acclamation.

SCOTTISH ARCHITECTS.

The monthly meeting of the Incorporation of Architects in Scotland was held at 15, Rutland-square, Edinburgh—Mr. G. P. K. Young, F.R.I.B.A., Perth, presiding. Among the professional items discussed were the following:—Dundee Technical College and School of Art, the Architects' Registration Bill, the Kinross and Logie housing schemes, the erection of pithead baths by the Mines Department, and the new standard form of contract. Mr. T. F. Maclennan, Edinburgh, reported as to arrangements made for the annual convention, to be held in Edinburgh on June 1 and 2 next, and the Secretary, Mr. Nicol Bruce, W.S., intimated that the R.I.B.A. final examinations for Scottish candidates would be held at the Incorporation chambers from July 4 to 12. The Council unanimously resolved to nominate Sir Robert Lorimer, K.B.E., F.R.I.B.A., as president of the Incorporation for the ensuing year. Messrs. G. M. Hay, Aberdeen; William Ogilvie, Edinburgh; T. G. Gilmour and Alexander Adam, both of Glasgow, were elected as Fellows of the Incorporation; and Messrs. James M'Gregor, Arbroath; P. P. Henderson and Malcolm Nicolson, Edinburgh; and James Watson, Glasgow, were elected as Associates. The following were elected student members:—Messrs. A. P. Borrie, Perth; A. R. B. Norrie, Bathgate; John Patterson and J. F. Donaldson, Edinburgh; W. M. Gilmour, Andrew Napier, John Cameron, T. A. Deane, A. M'N. Duncan, A. O. Hamilton, and Alexander M'Anally, all of Glasgow; John Abercromby, Stirling; and Andrew M'Graw, Hamilton.

SCOTTISH SURVEYORS.

The annual meeting of the Scottish Branch of the Surveyors' Institution was held in the Grosvenor Restaurant, Glasgow, under the chairmanship of Mr. John Gilchrist, J.P.

The chairman referred to the activities of the branch during the past year, particularly to the investigation into the incidence of local rating on housing and industry in the Clyde valley which had been carried out and which, he said, reflected very great credit on its authors. The Scottish Branch had also been responsible for the preparation and circulation of an instructive memorandum on the Rating (Scotland) Act, 1926, which he hoped would be of assistance. He welcomed the relief to agriculture promised in the Budget, but was not quite clear, in reading between the lines, whether this relieved the proprietors or even occupying owners.

Sir James Davidson, in moving a vote of thanks to Mr. Gilchrist for his services as branch chairman for the past two years, paid tribute to his labours in furthering the interests of the Institution, and to his knowledge and fairness in dealing with matterr under the Agricultural Holdings Acts.

Mr. Goddard (secretary to the Institution) reviewed the work during its 60 years' existence, and expressed the opinion that the ideals of the founders had been well carried out.

During the proceedings, gifts of a chairman's gold chain, replicas of the chairman's badge, and a gold gavell were presented by members.

The following hon. officials were appointed for the coming year:—Chairman, Mr. Robert Hendry; vice-chairman, Mr. Gordon T. Frew; and hon. local secretary, Mr D. M. Mackay.

SCOTTISH ARTISTS' SOCIETY.

The annual meeting of the Society of Scottish Artists was held in Dowell's Rooms Edinburgh—Mr. W. C. Crawford, president, in the chair. The Duke of Atholl was re-elected honorary president, while the following honorary vice-presidents were re-appointed:—Sir John R. Findlay, Bt.; Sir P. J. Ford, M.P.; Sir John Stirling-Maxwell, Bt.; Sir James Murray; Mr. R. B. Nisbet, R.S.A.; and Miss Meg Wright.

Mr. Crawford was re-elected president, and, after the election of other office-bearers, he moved that the rules of the Society be amended so as to make architects eligible for professional membership and to exhibit their work on certain terms, namely, that the works submitted by an architect should be limited to original designs which incorporated either painting, sculpture, or one of the kindred crafts. He said the idea was to make it clear that the Society wanted to encourage co-operation amongst the arts. As the rules stood at present there was nothing to prevent an architect becoming a member, but he thought it preferable that the conditions should be clearly stated under which an architect might become a member.

Mr. J. E. Shearer, in moving the previous question, said theirs was an independent Society and had not any room for an architect's section. The Society, he added, would do well to confine itself to its original purpose and to see that it did well.

On a vote, the motion was carried by 21 votes to 17.

INSTITUTE OF BUILDERS.

A visit was paid to the Imperial Institute Exhibition of Empire timbers on April 14 by members of the Institute of Builders Licentiate Discussion Club, when Dr. S. E. Chandler, D.Sc., supported by Major Cosgrove, D.S.O., M.C. (the Forest Products Research Laboratory) conducted the party on an exceedingly interesting and instructive tour. Dr. Chandler explained the planning of the exhibition and the manner in which the timber had been obtained from the various sources of supply. The timbers the various countries had been asked to provide were grouped into three, viz.:—

Those now on the market and known—put to other than usual use; Those now on the market and not well known; Those not on the market but which the countries were desirous of placing on the market.

Various firms had been asked to make some of the timbers up into articles. The results (writes Mr. C. I. V. Curtis, L.I.O.B., hon. secretary) illustrated the fact that the Empire produces many timbers of various kinds, the majority of which can be applied to articles now usually constructed with timbers from foreign countries. In appearance, quality and price, many of these Empire timbers have a considerable advantage over those now in common use which are products of foreign countries. Naturally, there is a limit to the uses to which certain timbers can be put; and there are timbers grown in foreign countries which have peculiar properties which cannot be produced in the Empire. It is obvious, however, that many of the timbers exhibited could and should take the place of those now commonly used. The timbers exhibited were from Canada, Australia, New Zealand, India, Burma, Tasmania, and Nigeria, and contained a wonderful range of soft and hard woods.

During the tour Dr. Chandler explained the various characteristics, uses, prices, sources of origin, etc., of the various timbers, comparing them with those timbers in common use. At the conclusion of the inspection of the timbers, Dr. Chandler introduced Major Cosgrove, who gave an instructive talk on the various pests which attack timbers, and the methods of their prevention. Illustrations, and in some cases the actual insects, were seen and their effects on timber explained. It appeared that hard woods are more readily affected than soft woods.

A most interesting exhibit was a large drum, with flanges fixed at oblique angles inside, into which model packing cases, crates, etc., are placed. The drum is then rotated at speed and the cases are bumped about for a certain period and then examined The weak points are noted and eliminated and superfluous thicknesses and reinforcements are reduced. The object is to effect saving in the construction of packing cases, thereby reducing weight and cost in transit and also initial cost; also to remedy those defects which prove costly when the goods are damaged through weak cases.

Major Cosgrove then introduced Mr. Wilson, an expert machinist, who gave a résumé of the growth of the use of machinery in connection with the conversion of timber and its manufacture into articles. Details of how waste ends of timber, after conversion, were being utilised by the manufacture of small domestic articles were given.

The party then proceeded into the cinema and were shown tree felling in British Columbia and methods of shipment. A process for preserving timber, especially such as telegraph poles, known as the "Cobra" process, was shown. The log is put through a machine having a number of needles, which pierce the timber and through which is injected a preservative solution, after which the log is treated externally with a coat of preservative solution. This terminated the visit. Gratitude was expressed to Dr. Chandler, Major Cosgrove, and Mr. Wilson for the excellent information and advice given.

LEGAL QUESTIONS WE HAVE BEEN ASKED

By W. T. CRESWELL, Barrister-at-Law, Associate (late Fellow) Surveyors' Institution, etc.

XVIII.—WHO IS LIABLE FOR EXTRAORDINARY TRAFFIC?

In our previous article the question answered was: "What is 'extraordinary traffic?'" and reference was made to section 23 of the Highways and Locomotives (Amendment) Act, 1878. It will be remembered that it is provided therein that the extraordinary expenses incurred by an authority may be recovered from the person "by whose order" extraordinary weight or traffic has been conducted. The words "by whose order" were altered by Section 12 (1) (*c*) of the Locomotives Act, 1898, which runs as follows: "There shall be substituted for the words 'by whose order' the words 'by or in consequence of, whose order.'" This alteration was the immediate result of the final decision in the case of Kent C.C. v. Gerard (Lord) (1897) A.C. 633. Lord Gerard contracted with several persons for the delivery to him of materials required for his residence, the prices, including carriage, to be payable and the property in the materials to pass to himself on delivery and acceptance at his residence. The materials were conveyed along a certain highway; and Lord Gerard knew that the contractors intended to send the materials along that highway and by traction engines and trucks; but he himself did not employ or pay the carriers, or give directions as to the route or the mode of conveyance. The highway authority incurred extraordinary expenses due to damage caused by the excessive weight or extraordinary traffic on the highway, and it was held that Lord Gerard was not a "person by whose order such weight or traffic had been conducted" and that he was not liable in damages.

Other Cases.

In that of Epsom U.D.C. v. London C.C., 1900, 2 Q.B. 751, Bigham J. said that "if the case of Lord Gerard (above) had been decided under the later Act of 1898, Lord Gerard would have been held to be liable," i.e., as the person under whose order such weight or traffic had been conducted. But in Egham R.D.C. v. Gordon (1902), 2 K.B. 120, where the defendant Gordon had contracted with a brick company to supply him with bricks but had not given any instructions as to the manner, time, or amount in which the bricks were to be delivered, and the brick company *without his knowledge* had delivered them by means of traction engines and trucks, it was held in this instance that Gordon was not the person "by or in consequence of whose order" the weight had been conducted over the plaintiff's roads.

This decision left the law on the subject in much the same position as it was left on the decision of Kent C.C. v. Lord Gerard (above). However, in the case of Kent C.C. v. Folkestone Corporation (1905), 1 K.B., 620, the defendants had entered into a contract with a contractor for the hauling of stone, for which haulage traction engines were used, and certain roads repairable by the plaintiffs (the county council) as the highway authority were damaged, and they brought this action against the defendants to recover the additional expenses of repairing the roads. It was held that the defendants were liable as the persons "in consequence of whose order" the damage had been done. Then, too, in Bromley R.D.C. v. Croydon Corporation (1908), 1 K.B. 353, where the defendant corporation had contracted with two contractors for the delivery (during a period of twelve months) of stone for road construction and repairs according to orders given from time to time, and the contractors had used traction engines, causing extraordinary traffic, it was held that the traffic was conducted in consequence of the orders of the corporation, and that liability rested upon the corporation; thus determining the fact that the person or persons giving orders are liable.

Most, if not all, of the above cases were referred to and considered in Windlesham U.D.C. v. Seward and others (1913), 77 J.P. 161. Seward, a building owner, contracted with Messrs. Thomas Lawrence and Sons, brick manufacturers, to deliver bricks at the Ridge Mount Estate, Sunningdale, by traction haulage. Messrs. Lawrence sub-contracted with a Mr. Eveleigh to carry the bricks in this way, and the last-named carried them over one of the plaintiff's roads. Messrs. Lawrence knew the size and weight of the engines to be employed, but did not decide upon the road over which they were to proceed, except in so far as an order given by them to go to a particular destination implied the necessity of going by a particular road. During the course of the proceedings Seward died, and no questions therefore arose as to his liability. But it was held that Messrs. Lawrence were responsible in being the persons "by or in consequence of whose order" the traffic was conducted over the road used within the meaning of Section 23 of the 1878 Act, as amended by Section 12 (1) (C) of the Act of 1898 (above). Scrutton J. said: "I should like to say, although it is not necessary to decide the point in this case, that in my view as the section now stands, there is no reason why two or three persons should not be held liable in respect of the damage done to a particular road. The words 'by whose order' bring in the contractor and the words "in consequence of whose order" bring in the building owner, and I do not see why either or both should not be liable." Ridley J. said: "I agree, so far as I understand the matter, though it is not necessary for us to decide it, that certainly Mr. Seward, and I think also Mr. Eveleigh, would come within the definition."

The Court Looks to the Real Principal.

From a consideration of the cases, and as the law now stands, it would appear that it would be well to cite both the employer and the contractor as defendants in an action in the first instance, and indeed to join all persons upon whom liability may be established, and who have *ordered* or conducted extraordinary traffic on the road in question, during the same period; though, in determining the liability, the Court will always look to the real principal in the matter.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

Circular Breeze Blocks.

[REPLY TO "GEOMETRY," APRIL 20.]

SIR,—These would certainly not be stocked in a great number of radius sizes, but if a very large number were required, it would probably pay to have a mould made. Probably the most economical and sound method of construction is to use studding with expanded metal lathing, or if there is a solid bearing it would pay to build in brickwork with snapped headers, leaving the true radius to be obtained in the plaster finish.

SPECIALS.

Gas Main Question.

[REPLY TO "INQUIRER," APRIL 20.]

SIR,—The practice varies in different districts and with different authorities. In many cases the company will bring in the service from the main to a stipulated length, generally 20 ft. The case quoted seems a little unusual, and your correspondent should make inquiries as to precedents from independent sources in the neighbourhood.

COSTS.

Absorbent Paper Towels.

SIR,—If the querist will consult the various paper manufacturers in this country, he will be able to obtain similar goods to those used in U.S.A. They are made from the blotting kind of paper.

FRANK JAY.

Making up a Street.

SIR,—"A," a builder, bought a piece of land and built thereon houses facing a street which runs parallel with a stream or brook, and separated from it by a low river wall. He sold some of the houses to various purchasers, and his conveyance to them included the freehold of the ground on which the houses stood, together with half the width of the street. Others of the houses he sold to other purchasers, and in their case he conveyed the whole width of the street with the houses. It may be presumed that whoever owns the half of the street next the river also owns the river-bed to the centre of the stream.

The local authority, acting under section 150 of the Public Health Act of 1875, are calling upon the frontagers to pave the street in accordance with the provisions of that Act. The question arises as to who is liable in the first-mentioned case for the cost of making up that half of the street adjoining the river. It is a considerable time since the property was built, and no representatives of "A," who has long since died, can now be found. An answer to this problem will be greatly appreciated by

PERPLEXED.

Surface-water Ditch.

SIR,—We should be pleased if you could give us some information on the following subject. A ditch running through our ground receives considerable quantities of surface water from surface-water sewers, the water being discharged into the ditch in a very short space of time, thus creating a nuisance by flooding. Some time previously we entered into an agreement with the local Council to pipe in a portion of the ditch, the Council supplying the pipes, and we laying and concreting same; this was done. We have now received a letter from the local sanitary inspector asking us to clean out the remainder of the ditch. Would you kindly inform us if, in your opinion, this ditch is a surface-water sewer, and whether we are liable to keep it clean as a watercourse?

E. J. S.

Defects in House.

[REPLY TO "W. A. S.," APRIL 27.]

SIR,—Unless the builder, from whom the house was bought, expressly or implicitly undertook to make good defects during a definite period following on the completion of purchase, he is not liable for the defects of quality referred to, or those which may arise in the near future. In these matters it must be remembered that "W. A. S." should have made inspection and inquiry as to the property beforehand; for the primary rule as to patent defects is *caveat emptor*—*i.e.*, let the buyer beware. But it may be that the defects complained of are latent defects which were not visible to the eye prior to purchase, or that the builder misrepresented the quality of the house; in which case "W. A. S." is entitled to support an action on the contract of sale. As to this, he had better first obtain a legal opinion before proceeding further.

LAW.

Summer Working Hours.

SIR,—A letter from correspondents signing themselves "Readers" (Watford) reminds me of a question about which I should very much like to hear the opinion of others. I have recently been in practice in a district which is almost immune from Trade Union restrictions, and the hours worked in summer time are unusually long, sometimes as much as 55 or more hours a week. I am inclined to think that the tradition of slow workmanship that exists in this district is largely due to the men becoming stale under such conditions, and I should be very much interested to hear of similar or conflicting experiences of other readers, if I may use the medium of this column.

RETURNED EXILE.

A STANDARD MODE OF MEASUREMENT

Mr. W. M. Baird, J.P., F.F.S., F.S.A. (Scot.), delivered a lecture on "The Rise and Progress of Quantities, and a Plea for a British Empire Mode of Measurement" before the Incorporated Association of Architects and Surveyors at Wilbraham-place, S.W.1, on March 30. Mr. H. A. Heath, F.I.A.S., was in the chair. The lecturer, in opening his address, said that he intended to discuss plans for "a *mode* of measurement" which would be common to architect, surveyor, and builder. In his view there had not been sufficient intercourse between the various surveyors' societies in England and Scotland. It was astonishing, for instance, to read this in a leading building journal (*The Builder* of March 16, page 459, headed "*The Builder* Debate,"* "Should Architects be Contractors?"):

"As matters stand in the profession at present, an architect is responsible, directly or indirectly, for the possible and probable mistakes of every man on his job; nay, he is even responsible, indirectly, for the mistakes of specialists who charge their own professional fees, inspect their own work, and make their own mistakes. In Scotland a surveyor does not even hold himself responsible for his measurements, and before signing his name to the bill of quantities inserts the two letters 'E.E.' These symbolise in the measuring profession 'errors excepted,' and are known to the architectural profession as 'errors expected.' The architect has so pandered to all those who assist him to erect his building that they look to him not only for guidance but for practical assistance, and he is compelled to know more about their business than he has time to learn about his own."

He had read this with great interest, said the lecturer, and it was with great astonishment that he lighted on the words "In Scotland a surveyor does not even hold himself responsible for his own measurements," and it was a great surprise to one or two of his old assistants in London to hear it. He had been in Edinburgh "in quantities" for 30 years at least, and had met in the process most of the leading firms. He had seen their schedules (measuring bills), and had never once seen "E.E." put on a bill. If all those professions and crafts which had to do with building could know each other better, there would not be such erroneous conceptions of things.

The lecturer then gave some account of the history of quantity surveying, which, he said, commenced in Scotland in 1628 with the building of George Heriot's Hospital in Edinburgh.

Coming to more recent times, in 1899 the Ordained Surveyors' Society was formed (a society existing only in the east of Scotland with Edinburgh as headquarters). This was the first real step to what one might term "the profession as a body politic" in the Edinburgh area. Before then one was simply "ordained" by the sheriff, and one or two men well known in the profession met and talked and put through some type of examination. A man went on to the sheriff's court, and then he was qualified, with a degree as surveyor. In 1881 the Glasgow Institute of Measurers came into being, by which time the need for the union of practising measures in Glasgow was urgent. It was worthy of note, said the lecturer, that the first business which they tackled was not a mode of measurement but a table of fees. They then proceeded to standardise modes of measurement, so that they first settled what they were to be paid, then what they were to be paid for. In February, 1909, the Edinburgh Society of Ordained Surveyors suggested a combination of that Society with the Institute of Measurers in Glasgow under a Royal Charter. Such an amalgamation it was felt would give the new society more weight and wider influence. Both Councils took up the matter, and a general meeting was held in the following June, at which the proposals were approved for altering the articles and making the union possible. Delegates were appointed to confer with the surveyors. An outline of a new constitution was submitted to a general meeting in April, 1910, and in 1911 a petition for grant of a charter was made to the Privy Council. There was some opposition, as was to be expected, but the charter was sealed on March 10, 1913. After four years spent in negotiations, the last meeting of the Institute was held in the Christian Institute on March 19, 1913, at which a resolution for union was unanimously agreed to, and immediately thereafter the council for the new society was elected.

The first meeting of the Faculty of Surveyors of Scotland was held in the Building Trades Exchange, 67, Hope-street, Glasgow, on April 8, 1913. 1913 was a memorable year in the history of Scotland. The F.F.S. Society received its Royal Charter, and Scotland had a national mode of measurement, and national conditions of contract, printed and published by H.M. Stationery Office. What Scotland did for herself in 1913 England should do to-day, said the lecturer. The feeling in the North was that the benefits could not be too highly estimated. Every surveyor was using the mode and conditions, every architect and builder understood them, and in method or training everyone benefited. Examinations were set by the Faculty, extending over four days, for all students on the standardised mode, and the success of the Scottish mode led him (the lecturer) strongly to urge the great need there was for an English mode of measurement. If we could get that, then the step to an Empire mode would be easy. A little negotiation, a little giving and taking, coming and going, between England and Scotland, and a round-table conference, with delegates appointed, was the only trouble necessary to bring about that English mode. There were people now in Australia and New Zealand, trained in Edinburgh and Glasgow, using the Scottish mode, who sent assistants home to take their final ticket.

In the discussion which followed Mr. Laing said that he understood from the lecturer that in 1913 the Glasgow and Edinburgh associations got together, and had no difficulty at all in carrying through their proposals, and that in fact within two months they were able to settle their differences and have a common mode. He was afraid that things would not be so easy here, and that everybody would not be so willing to fall into line. He asked what would be the position of those who did not fall into line. If a certain number stuck out, it seemed that some further complication must arise.

The chairman said that the lecturer had mentioned that the Glasgow Institute of Measurers prepared a table of fees. He asked whether they got the scale fees. He found that although they had scale fees in England they didn't always get them.

Mr. Browning asked if there had been any serious attempt made to bring about a common mode of measurement between the Faculty of Surveyors in Scotland and any institutions in England.

Mr. Murray said he would like to say that he had settled a good many contracts in Scotland and that he never had had any trouble when the mode of measurement had been adopted.

Mr. W. Forbes Campbell, in proposing a vote of thanks, said that the lecturer had shown that there was a standard mode of measurement, adopted from north to south, east to west, in Scotland, whether by members of the Faculty of Scotland or not; all must work to it, and Mr. Murray had told us that his only difficulty had been where the mode had not been adopted. In London, of course, there were many modes, and again in Liverpool and Manchester there were modes which were as different as they could be from London. Mr. Browning had asked if there had been no real attempt made to get a British alliance and an Empire mode. He hoped at any rate after the lecture they would deem it a necessity in the profession to get down to some conference and get over all the difficulties, so as to make the ground for those coming after.

Mr. Brewer seconded the vote, and Mr. Baird, in acknowledging, said there were more things than bricks, lime, cube, stone, and labour between those of the profession. He had referred to the letter in *The Builder*. Perhaps one of these days one would write back something on English modes. He was glad to say that the Faculty had arranged classes at Heriot's College, where evening classes in building construction were being held, and these classes were being well attended. Of course there were diehards in the profession, and some little difficulties still had to be met from time to time. The modes were not all perfect, and the Faculty did not say that their mode was *the* mode, but only it was the best they could produce after their meeting with builders and architects. Even to-day there had to be some revision going on.

* The quoted paragraph forms part of a reader's contribution to the discussion on this subject.—Ed.

WEEK IN PARLIAMENT

Westminster, *Wednesday.*

Charing Cross Bridge.

Sir William Davison asked the Prime Minister whether he was now in possession of the Report of the committee of engineers who were appointed last year to examine the scheme of the Royal Commission for a new bridge at Charing Cross; and whether he could inform the House of the purport of such Report and as to the action the Government proposed to take thereon.

Col. Ashley, the Minister of Transport, who replied, said he had now received the report of the Committee of Engineers. It was generally to the effect that the Royal Commission's scheme for a road and railway double-decker bridge at Charing Cross would prove to be more costly than the Commission estimated. The engineers suggest, as an alternative scheme, that Charing Cross Station should be removed to the south of the river, and additional terminal railway facilities provided there; that a road bridge should be constructed on the line of the present railway bridge, the approaches to commence at the Nurse Cavell Monument and be carried over the Strand. This scheme, in their opinion, would be less costly and generally more advantageous to traffic. The Government proposed to confer with the Southern Railway and the London County Council immediately upon the whole matter.

Empire Timber.

Sir W. Davison asked the Under Secretary of State for the Home Department, as representing the First Commissioner of Works, whether he could assure the House that in all contracts involving the supply of timber to his department the specification should provide that only British Imperial woods should be supplied.

Sir V. Henderson said, while he was unable to give an undertaking that British Empire timber would be used in every case in which building work was undertaken by the Office of Works, he was glad to be able to assure Sir Wm. Davison that, as a general rule, only British Empire timber would be specified for carpenters' and joiners' work in Office of Works building contracts.

A New Cinema at Windsor.

A large site in Thomas-street has been bought for the erection of a block of new buildings, including a new picture theatre, café, shops, etc. The architect is Mr. Robert Cromie, F.R.I.B.A., 73, Edgware-road, W.2

THE BUILDING TRADE

EVERYDAY SCIENCE FOR ARCHITECTS AND BUILDERS—XVII

By A. M. GILES, B.Sc., A.I Struct.E., A.M.I.E.E.

Light—General Principles.

To enable one to appreciate fairly easily the numerous applications of the principles of light it is necessary to explain sundry definitions such as luminous, transparent, translucent, opaque, etc., and then to take in order experimental information about: (*a*) the propagation of light in straight lines, (*b*) the law of reflection of light at different surfaces, (*c*) the law of refraction from one medium to another, and (*d*) the decomposition of white light into its various colours.

I was interested a short time ago to read that "light is something taking place between the object seen and the eye that sees it." We realise that this is so, since light passes from an object to the eye by a series of waves taking place in the ether. No material medium is necessary, for if we place an object under a bell-jar and extract the air by means of an air-pump we can still see the object. Also, light reaches us from the sun through a vast distance in which there is no material medium.

By very elaborate laboratory experiments it has been proved that light travels with the enormous speed of 186,000 miles per second. Even when we say that light would travel eight times round the earth in one second it is most difficult to appreciate such speed. Again, the length of a light wave is so very tiny that it is difficult to make comparison with anything tangible. It may help if we realise that in a length of one inch there are about 42,000 light waves. Dealing with something that travels with such enormous speed and yet makes such infinitesimal disturbances in the ether only makes it the more wonderful that so much is known about it.

Luminous.

As this was mentioned in the previous article it is only necessary here to repeat that a body is luminous or non-luminous only in so far as it is of itself able to give out, or not give out, light.

Transparent.

A material is said to be transparent when light will pass through it, and when one is able to see and discern objects clearly through it, *e.g.*, a piece of window-glass (usually).

Translucent.

The term transparent is occasionally misused, since one sometimes hears of a piece of paper or a piece of material spoken of as being transparent when translucent is really meant. A substance is translucent when light will pass through it but one is not able to see through it, *e.g.*, an opal shade, crinkly glass. Many translucent substances are used in the building trade.

Opaque.

Substances like a brick wall, through which light will not pass, and through which one is unable to see, are defined as opaque.

Propagation of Light.

We are told that light travels in straight lines, and this is what is meant by that previously mentioned expression, viz., "rectilinear propagation of light." People can be excused if their ideas become a bit muddled when they are told that "light travels by a series of waves in the ether," and then that "light travels in straight lines." It must, however, be remembered that the waves are so tiny that they differ very little from a straight line, and that if an opaque object be put in the way the light is cut off, *i.e.*, light will not appreciably bend round a corner, and one cannot see round the corner.

There are many experiments devised to illustrate the fact that light travels in straight lines, and we will now describe one or two:—

1. Suppose the shutters of a window, into which the sun is shining brightly, are closed so as to darken the room. In the shutters there may be a tiny hole or crevice (if not, make one) through which will be seen a beam of light running in a straight line across the room. By the way, this beam of light would not be visible were it not for the tiny dust

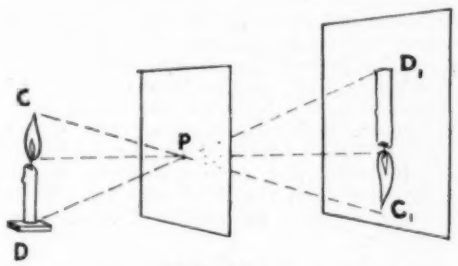


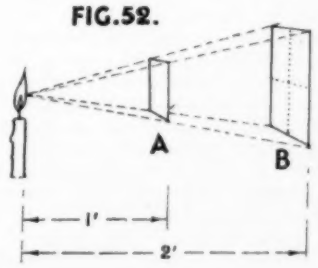
FIG. 51.

particles floating about in the air, therefore in order to intensify the appearance of the beam it is only necessary to blow some smoke into it, or to shake a duster near it.

2. Pinhole Camera.—This interesting piece of apparatus, the principles of which are illustrated by Fig. 51, gives a good demonstration of the travelling of light in straight lines.

A candle *CD* stands in front of an opaque screen through which is a tiny hole marked *P*. Light travels from different parts of the candle in straight lines through the pin-hole and forms an inverted image of the candle on a screen placed on the other side of the opaque screen. The image is marked *C*, *D*, and it is only fair to say that, in attempting

FIG. 52.



to perform the experiment, you may not get more than an image of the flame. This would be the case if the experiment were performed in a darkened room. It can be improved, however, by having the pin-hole through the front face of a rectangular box and a translucent screen at the back of the box, upon which the image will be formed. If, at the same time, the shank of the candle be well lighted, then the image of that as well as of the flame will be seen on the screen.

Another point that may be emphasised here, because it will be referred to again later, is the size of the image compared with that of the object. It should be fairly obvious that this depends upon the relative distances of the candle and the screen from the pin-hole. Evidently, if these distances be equal, the image and the object will be of the same size, and, if the screen be twice as far from the pin-hole as the object is, then the image will be twice the size of the object; on the other hand, if the object be placed distant from the pin-hole twice as far as the screen, then the image will be half the size of the object.

Some very good photographs, particularly of nature studies, have been obtained by this very simple piece of apparatus. Arrange for the box to be light-tight except for the pin-hole in the front face (where normally the camera lens would be); also, instead of the screen at the back face, have a photographic plate or film, which can be developed in the ordinary way. It should be stated that, in order to obtain a good negative, the object should be well illuminated.

Another point of interest is the size of the pin-hole. The smaller it is, the more clearly defined will the image be; but, of course, opposed to that is the fact that the smaller the pin-hole the less is the light that will get through. If, however, the pin-hole be made larger, more light will certainly get through, but you will have a series of overlapping images, and as a result the image will present a very blurred appearance, *i.e.*, very far from being distinct or clear.

Inverse Square Law.

Although only very elementary mathematics are used in these articles, we must attempt to explain and make clear the "inverse square law." Its application crops up in all branches of science, and, in fact, it is very often used without people realising that they are doing so. It is not really difficult, and Fig. 52 should help us to understand it.

We will use a point source of light instead of the candle shown in the illustration. This is easily obtained by allowing the light from the candle to pass through a small hole in an opaque screen. The screen *A* is placed at a distance of 1 ft. from the light. Then the intensity of illumination of the screen *A* will be 1 foot-candle (F.C.). If, now, the lines joining the light to the four corners of the screen *A* be produced to meet screen *B*, which is 2 ft. from the light, then it is very easy to see that the area enclosed by these lines on screen *B* will be four times as large as the area of screen *A*. If the screen *B* were 3 ft. from the light, then the area enclosed by the lines meeting screen *B* would be nine times as great as the area of screen *A*. To verify this, it is quite easy to make an actual drawing to scale, and then find the areas of the screens by taking measurements.

Now remove screen *A*, and the light which was falling on it will fall on screen *B*, *i.e.*, on an area which is four times larger; therefore, since the light which was falling on *A* is now spread over an area four times as large, then the illumination of the area on screen *B* must be one quarter of what it was on *A*. (For example, if you have to paint 4 square feet of surface with the same amount of paint that you used for 1 square foot, evidently the thickness of the coat of paint on the larger surface will have to be one quarter of what it would be on the smaller surface.) Therefore the illumination of screen *B* is inversely as the square of its distance from the source of light, *e.g.*, in our illustration the screen *B* is 2 ft. from the light. The square of 2 is 4, and the inverse of 4 is ¼.

The distance of screen *A* from the light is 1 ft.; the square of 1 is 1, and the inverse of 1 is 1: therefore, the intensity of illumination of screen *B* is one quarter of the intensity of illumination of screen *A*, though it is only twice as far from the light as *A*. Similarly, if it were three times as far away, its intensity of illumination would be one-ninth, and so on.

OBITUARY

Mr. Henry Frederick Higgs.

We very much regret to record the death, on Thursday, April 26, of Mr. Henry Frederick Higgs, at 60, Brixton-hill, S.W. Mr. Higgs for many years carried on business with Mr. Frederick Higgs at Station Works, adjoining Loughborough Junction, S.E. Mr. Frederick Higgs writes as follows :—

"He became associated with me in 1882, attaining to partnership in 1884, when we called the business F. & H. F. Higgs, continuing to carry on under that title until December 31, 1914, when he retired to make room for my two nephews, Messrs. Basil C. and George J. Aldous. By his sincere and straightforward character he earned the affection and respect of all with whom he came into contact, and bearing in mind the extensive character of the firm's operations during these 30 years, this may be regarded as applying to the principal people connected with the architectural and surveying professions and the craft of building. Soon after his retirement he was seized by a bad form of neuritis or rheumatism, an ailment which he was never able to shake off, and latterly by internal gastric trouble, which eventually carried him off after several years of suffering, bravely and patiently borne.

"Although 14 years have elapsed since his withdrawal from active co-operation in the building trade, he will still be remembered by many, who, I am sure, will share the sorrow and regret for the calamity which has fallen on his family and more immediate friends. Coming of a family in which building enterprise is a hereditary tradition, he worthily upheld the best traditions of the craft. The youngest son of William Higgs, who erected some of the largest buildings in London and suburbs in the mid-Victorian period (1840-1870), he was unable to find a place on the older firm, which had then become Higgs & Hill, and set about to make a name for himself in the offshoot firm which had been a few years earlier started by myself.

"The writer has lost, in this kinsman's passing, a faithful friend and a loyal comrade; numbers of others can say the same, besides bearing testimony to his helpfulness, gentleness, fortitude, and kindly nature. He will be greatly missed, and it will be long ere we shall see his like again."

THE RATING AND VALUATION BILL

The Rating and Valuation Bill passed the Committee stage in the House of Lords recently, but clause 4, which enables the Minister, on the recommendation of the Central Valuation Committee, to state doubtful points of law for the opinion of the High Court, evoked much discussion, and was only carried by a majority of five votes. In our first notice of this Bill in our issue March 30 we took objection to this clause in its present form as marking an entirely new departure, and this was the view expressed by the noble Lords having judicial experience, who spoke, with the exception of Lord Birkenhead. Lord Atkin took very much the same points that we did, observing that the clause left parties in doubt as to whether they had to pay their own costs or whether these were to be paid by someone else, and also that there was no provision in the clause to secure questions being argued on behalf of persons who opposed the views put forward by the Central Valuation Committee.

No justification appears to have been put forward for this clause except that expressed by Lord Birkenhead that this particular procedure had been adopted in the hope of enabling a general rule to be laid down for the prevention of superfluous disputations, but that is an argument that would apply to almost any statute raising difficult questions of law, which it must be said is the case with most modern statutes. Apparently the intention of the clause is, as Lord Merivale put it, to make the judiciary act in an ancillary and advisory capacity to the Executive, for which he said there was no precedent in the law of any Western State.

But further difficulties appear to arise out of this clause. What is to be the effect of the decision when obtained? We assume the opinion expressed by the High Court in a matter brought before it in this unusual manner—only such parties being heard "as the Court thinks proper"—would no way prejudice any person, not a party to the application, taking proceedings in the ordinary way in the Courts with a view to obtaining a decision in the House of Lords. But if that is the case, what would be the position of the Executive, and also of any person who was a party to the proceedings under this clause? Would the Executive be bound by the opinion it had obtained from the High Court, and would any party to those proceedings be estopped from taking other proceedings? If that is not the case the clause appears somewhat futile, whereas if it is the case no one would willingly be made a party under clause 4.

Seeing that decisions on rating points may affect such undertakings as the railways, gas, water, and electricity supply throughout the country, and that in the past it has often been found necessary to obtain the opinion of the highest tribunal in the land on such questions, and that tribunal has often taken a view contrary to that expressed by Courts of inferior jurisdiction, it can hardly be the intention to limit parties to the opinion of a Court of first instance on questions of such importance, and the effect of the clause should at least be made clear. Lord Birkenhead indicated that some amendment might be introduced on the third reading, and it certainly appears to require further consideration.

BUILDING SCIENCE

Under this title, the Board of Education have published for official use a pamphlet (No. 57, H.M. Stationery Office, price 3d. net), dealing with the teaching of building science to students attending courses of instruction in building and the building trades.

According to the preface, in 1916 the Board issued a memorandum on the teaching of building in evening technical schools (Circular 978, published by H.M. Stationery Office, price 6d.). This new memorandum is intended to supplement that Circular by providing more detailed suggestions for the treatment of the subject of building science. It is not intended that the suggestions and recommendations contained in the memorandum should be regarded as providing ready-made schemes of instruction, or that they should in any degree discourage individuality and flexibility in methods of teaching or organisation. Classes in building science are conducted under such widely different conditions that the schemes set out below should be looked upon only as suggestive outlines to be modified or adapted to the needs of different localities, or the requirements of different types of students. At the same time the recommendations made are based not only upon successful schemes of instruction which have been evolved in various building schools and classes throughout the country, but also upon those methods of instruction which have been found to give the most satisfactory results in their application to other forms of education, and particularly in other subjects of technical instruction.

The memorandum has been prepared by inspectors of the Board of Education who have had experience in the practice of architecture and building and in the organisation, teaching and inspection of classes in those subjects in technical schools.

The pamphlet is sectionised into an introduction dealing with the subject: the aim and treatment of instruction in building science; instruction in science for students of building (major courses); instruction in science for students of various building trades (minor courses); and, lastly, the equipment of the building laboratory.

NEW B.E.S.A. SPECIFICATIONS

DRAWING OFFICE PRACTICE: GAUGES FOR BROKEN STONE.

The question of the standardisation of drawing office practice concerns every branch of the engineering industry, and so recommendations made in "Engineering Drawing Office Practice, 308-1927" (B.E.S.A. Publications, 28, Victoria-street, S.W.1, price 2s. 2d. post free) are made after careful consideration of the advice and remarks offered by the many firms and associations consulted. The work, we learn, has been undertaken in the hope that some progress may be made towards that uniformity of practice which is so much to be desired, even at the expense of some change on the part of those whose present practice differs from that recommended. In view of the diversity of practice which exists in different firms and industries, the committee are not recommending the adoption in all cases of hard and fast rules, but have included alternatives, and it is recognised that there will be a transition period before all the conventions recommended can be generally adopted.

"The British Standard Specification for Gauges of Broken Stone and Chippings, No. 63—1928" (price 2s. 2d. post free), is a revised edition of the British standard specification for the gauges of broken stone and chippings and has been issued to supersede that published in 1913.

In the course of the revision, investigations of current supplies were carried out by a number of highway engineers, as a result of which the association satisfied itself, we learn, that the gauges specified in 1913 were such as substantially to meet present-day requirements. It was found in 1913 that the specification could be met by the majority of the quarries, as material of the proportions standardised was in fact being supplied, though the quarries frequently differed in the nomenclature used to describe the gauges.

The Specification is accordingly re-issued with the technical requirements unmodified. Certain editorial modifications have, however, been made, and metric equivalents of the dimensions have been added.

ROADS IMPROVEMENT

We have received a copy of the annual Report for the year 1927-28 of the Roads Improvement Association. We learn from this that the proposed Chair of Highway Engineering at London University is well on the way to materialisation. Pending the completion of the £30,000 fund for its endowment, a sum of £1,500 per annum for a minimum period of five years has been guaranteed by the Worshipful Company of Paviors to expedite arrangements.

The next World Motor Transport Congress will be held, we learn, at Rome during September.

We take the following extracts from the report :—"The situation concerning the development and improvement of the roads is far from satisfactory. The effect of the diversion of over £26,000,000 from the Road Fund during recent years is now apparent. Instead of the present highway system being extended — existing roads widened out and new roads appearing abreast with traffic growth—as was contemplated when motorists agreed to contribute to the Road Fund—road work has dwindled merely to week-to-week maintenance. Road development can only be economically and efficiently carried out if planned well in advance of actual requirements. The losses in recent years consequent upon traffic delays and the heavy sums that have had to be paid to secure relatively small improvements clearly demonstrate the enormous cost of the lack of foresight in the past."

BRITISH STANDARD SECTIONS

[We have received the following article from a correspondent.]

It is understood that a new revision of the British Standard Sections of Joists, Channels, Angles, etc., is at present under consideration by the British Engineering Standards Association. As most of our readers are aware, sections of standard design have been in use since 1904, this standardisation proving of inestimable value to the steel industry in particular and to the engineering and building world in general. It reduced costs of production and consequently ensured a cheaper commodity; it enabled constructional engineers to design their structures on the basis of consistent standards and to buy steel shapes for new work or for replacements from any steelmaker, and thus take advantage of any price consideration and prospect of immediate delivery which might be available.

These worthy standards remained in force, subject to slight revisions from time to time, until 1924, when a revised list of sections was prepared, which were expected to supersede in their entirety the original standards. The grounds for this supersession may be stated as the general economical superiority of the now "new" sections over the old. The range of dimensions was altered, as new sections with broad flanges were included, permitting their use as stanchions without the necessity of plating. The general trend of the revision was in the use of less metal without impairing the load-carrying capacity of the sections, or of increasing this capacity without increasing the metal.

For divers reasons this revision has not had the success it merited. Engineers have been prone to specify the sections with which they were most familiar, and steelmakers to supply them. In some cases the consulting engineer has had a certain amount of justification in specifying certain old sections, and some of these have proved of such value to the building trade that they will be retained in the new list. On the other hand, engineers find that in endeavouring to obtain certain "new" sections, the demand has been so slight that even after a period of four years, rolls have not yet been cut to the new standard. Again, even where the rolls have been available, the orders received by the steelmaker have been insufficient to justify the rolling, and the engineer has consequently had to fall back on the old standards and to re-design his plans where necessary.

The new Committee of the British Engineering Standards Association dealing with this subject are not contemplating the incorporation of any section not already included in either the old or the new list, but are considering both in the light of the present demand, and fixing their attention merely on issuing a revised list which will be a compromise between the old and the new, retaining the best of both and eliminating the remainder.

A revision of this nature will be of benefit to the consulting engineer, to the greatest extent, meeting as it will his desires in the specification of sectional material. It is sometimes stated that the engineer passing frequent but small orders is at the mercy of the steelmaker, in so far as his orders do not justify a special rolling, and thus must accept whatever section (old or new) for which the steelmaker can provide reasonable delivery. The steelmaker, on the other hand, contends that he is not in a position to dictate, and must accept the orders as specified.

Surely the final solution, to the satisfaction of all concerned, lies in this new revision and in its general adoption by consulting engineers. Thus, where specifications are prepared to lie within the limits of this proposed comprehensive and concentrated range of sections, the engineer will be assured of prompt and quick delivery, and, what is of paramount importance, will obtain his requirements at the lowest cost.

NEW BUILDINGS IN LONDON

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned.

Becontree.—Church.—Subject to the consent of the Minister of Health, the London County Council have sold a site in Wood-lane, Becontree, to the Baptist Church authorities for the erection of a church.

Bloomsbury. — Extension. — The London County Council have recommended £8,430 in respect of the extension of the L.C.C. trade school for girls, Bloomsbury, W.C.1.

Croydon.—Extensions.—Mr. J. Crewdson, of Horley, has secured the contract for extensions to the ladies' baths and alterations to the laundry at Croydon Baths for the Croydon Borough Council.

Croydon.—Hall.—Plans have been prepared by Mr. G. O. Scorer, F.R.I.B.A., of 46, Lincoln's Inn-fields, W.C.2, for a dance hall in Brighton-road, adjoining the Post Office.

Croydon.—Houses.—Plans have been submitted and approved by the Town Council for the erection of 32 houses in Florida-road, and 20 in Springfield-road, for Mr. R. Pierson, of 47, Wakehurst-road, S.W.

Croydon.—Houses.—Messrs. J. T. Keen & Sons, 47, Mitcham-lane, S.W.16, have applied to the Croydon Council for sanction to the erection of 43 houses and garages in Georgia-road, and 41 houses and garages in Carolina-road.

Deptford.—Dwellings.—Subject to the approval of the Ministry of Health, the London County Council have accepted the tender of Messrs. A. E. Symes, Ltd., of Stratford, E., for the erection of the third block of dwellings of the Hughes Fields estate, Deptford. The plans have been prepared by Mr. G. Topham Forrest, F.R.I.B.A., and the price of the tender is £19,534.

Downham.—Church.—The London Baptist Property Board, Ltd., have purchased a site in Downham-way for the erection of a church.

Edgware-road.—Convenience.—The Paddington Borough Council are inviting tenders for the erection of an underground convenience at the Edgware-road junction with Harrow-road. The drawings may be seen at the Borough Engineer and Surveyor's office, Town Hall, Paddington, W.2.

Eltham.—Houses.—Mr. S. Browne, 97A, Eltham High-street, is to build and drain 29 houses on the west side of Green-lane, Eltham.

Finsbury.—Centre.—On a site in Leage-street, Finsbury, E.C.1, a maternity and child welfare centre is to be erected for the Finsbury B.C. Mr. E. Stanley Hall, F.R.I.B.A., architect, of 54, Bedford-square, London, W.C.1, has prepared the plans.

Highgate.—Extensions.—The Highgate electricity sub-station is to be extended. The work is to be carried out for the St. Pancras Borough Council.

Kingston.—Theatre.—An operating theatre is being built at the Kingston and District Hospital by Messrs. Thorogood Bros. & Son, builders and contractors, Tolworth, Surrey. The constructional steelwork is being supplied by Messrs. Young & Co., 6, Queen Anne's-gate, S.W.1. Mr. F. Danby Smith, F.R.I.B.A., Victoria-street, S.W.1, is the architect.

Lewisham.—Extension.—Tenders for extensions to the Central Library, High-street, Lewisham, for the Borough Council are now being invited. The plans have been prepared by the Borough Surveyor.

London.—Buildings.—At the annual meeting of Messrs. Upsons, Ltd., boot factors, it was stated by Mr. J. R. Upson, the chairman and managing director, that new branches were to be opened at Acton, Bromley, Barnet and Reading, and that other properties were being negotiated for.

Marchmont-street. — Conversion.—Messrs. Frank Lyne & Wagstaff, Ltd., motor transport contractors, Tottenham-lane, Crouch End, have purchased premises in Crescent-place, W.C., which they contemplate converting into a large char-à-banc terminus.

St. George-road.—Cinema.—Messrs. Taylor's Depositories are to be pulled down and the site used for the building of a picture theatre, shops, etc. The promoter is Mr. Harry Rowson, 27, The Park, Golder's Green, N.W.

Seven Dials.—Building.—A large site, with frontages to Great Earl-street, Little White Lion-street and Castle-street, W.C.2, is being cleared of old buildings by Messrs. H. J. Greenham, Ltd., Isleworth, Middlesex, prior to the commencement of extensive rebuilding operations. The architects are Messrs. Wimperis, Simpson & Guthrie, 60, South Molton-street, W.1.

Stepney.—Baths.—The Town Clerk of the Stepney Borough Council has reported the completion of the purchase from the Whitechapel and Bow Railway Co. of the freehold interest in land on the east side of Stayner's-road, required in connection with the proposal to erect public baths.

Strand.—Site.—Messrs. J. Lyons & Co. have offered the London County Council £58,000 for an adjoining site which has a 28-ft. frontage to the Strand, and is not required for road-widening purposes.

Teddington.—Building.—The Government are to provide funds for a commencement of work upon the new Physics Building at the National Physical Laboratory. Plans have been prepared by H.M. Office of Works, Storey's-gate, S.W., whose chief architect is Sir Richard Allison, F.R.I.B.A.

Victoria Park.—Extensions.—An appeal for £50,000 is to be made by the governors of the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E., for the purpose of building extensions. The governors have accepted a tender for just under £6,000 from Mr. Albert Monk, Lower Edmonton, N., for the rebuilding of the surgical and X-ray block, whilst several other works, including a new sanitary block, etc., have yet to be contracted for.

Whitechapel. — Rebuilding. — The Chief Architect to the L.C.C. has prepared plans for the rebuilding of the Whitechapel Fire Brigade station, Commercial-road East, abutting upon Manningtree-street.

Wimbledon. — Showroom. — Messrs. Montague Burton, Ltd., Leeds, are to build new shop and showroom premises at the site of 1-3, Merton-road, S.W., with a billiard hall overhead. The plans have been prepared by Mr. H. Wilson, Roundhay, Leeds.

Wimbledon.—Showrooms.—A new petrol service station, showrooms, etc., is to be built on a site in Hartfield-road, S.W. The plans have been prepared by Messrs. North, Robin & Wilsdon, F. & A.R.I.B.A., 35-39, Maddox-street, W.1.

Woolwich.—Houses.—The Woolwich Council have provisionally accepted the tender of Messrs. F. Ling & Sons, of Erith, Kent, for the erection of 30 houses. The price of the tender is £13,600.

Woolwich.—Premises.—The premises at the junction of High-street and Hare-street, S.E.18, are to be pulled down and rebuilt to provide new showrooms for Messrs. Montague Burton, Ltd., Leeds. Plans have been prepared by Mr. Harry Wilson, architect, North-lane, Roundhay, Leeds.

Memorial to Sir Isaac Newton.

To commemorate the association with the site of Sir Isaac Newton, the Westminster City Council has authorised the fixing of a tablet and portrait medallion—to be executed by Mr. Walter Gilbert—on the front to St. Martin's-street of the new Library now being erected in Orange-street, W.C.2, on the site of which Newton lived from 1710-1727.

RATES OF WAGES IN THE BUILDING TRADE

[Every endeavour is made to ensure accuracy but we cannot be responsible for errors.]

	Masons.	Brick-layers.	Car-penters Joiners.	Plas-terers.	Slaters.	Plum-bers.	Pain-ters.	Lab-ourers.
Aberdare	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Accrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Alfreton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Alnwick	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Altrincham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ashford Kent	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Ashington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ashton-under-Lyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Aylesbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Aylsham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Barnsley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barnstaple	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Barrow-in-Furness	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Basingstoke	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bath	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bedford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Berwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bexhill	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bishop Auckland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackburn	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackpool	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bolton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bournemouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bradford-on-Avon	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Braintree	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bridlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bristol	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bromsgrove	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bromyard	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bungay	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Burnley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Burton-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Buxton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Cardiff	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Carlisle	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chatham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Chelmsford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chesterfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chorley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Cirencester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Clacton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Colchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Coventry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Cranbrook	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Crewe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cromer	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Darlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Deal	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Denbigh	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Derby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Devizes	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Dewsbury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Doncaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Dorchester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Dorking	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Dovercourt	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Driffield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Droitwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Eastbourne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
E. Glam. (Mon. Val.)	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ely	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Exeter	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2
Exmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Fakenham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Felixstowe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Frome	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Glossop	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Goole	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Gosport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grantham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Great Yarmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Grimsby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Guildford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Halifax	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Harpenden	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Harrogate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hartlepools	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Harwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hastings	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hatfield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hednesford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hereford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Herne Bay	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Huddersfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hull	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hunstanton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Huntingdon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Isle of Wight	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Ipswich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Keighley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
King's Lynn	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lancaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2

	Masons.	Brick-layers.	Car-penters Joiners.	Plas-terers.	Slaters.	Plum-bers.	Pain-ters.	Lab-ourers.
Leeds	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leicester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leighton-Buzzard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Lichfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lincoln	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Littlehampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Llanelly	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
London :								
12 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4
12-15 m. radius	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½
Loughborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Lowestoft	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Luton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Macclesfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Maidstone	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Malvern	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Manchester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Mansfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Margate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Market Harb'rough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Matlock	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Melton Constable	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Melton Mowbray	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Merthyr Tydfil	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Middlesbrough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newark	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newcastle-on-Tyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newcastle-ur-Lyme	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
New Forest	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newport, Mon.	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Nottingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Nuneaton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oxford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Paignton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Peterborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Plymouth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2½
Pontypridd	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Portsmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Preston	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ramsgate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Reading	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Redcar	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Redditch	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Reigate	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Retford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ripon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Rochdale	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Rochester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Rugby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Saffron Walden	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sawbridgeworth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Saxmundham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Scarborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sevenoaks	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sheffield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Shrewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sittingbourne	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
South Shields	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stevenage	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stockport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stockton-on-Tees	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stoke-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stourbridge	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stowmarket	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Stratford-on-Avon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stroud	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/0½
Sunderland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swaffham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Swansea	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swindon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Tamworth	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Taunton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Thetford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Torquay	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Totnes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Trowbridge	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Tunbridge Wells	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Uttoxeter	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wakefield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wallsend	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Warminster	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Warrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Warwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wells (Norfolk)	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Welwyn Gar. City	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Bromwich	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Weston-sup.-Mare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Weymouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Whitby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wigan	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Winchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Windsor	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wisbech	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Wolverhampton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Woodbridge	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Worcester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worksop	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worthing	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wrexham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wroxham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wymondham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½
York	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½

For rates of wages in the Building Trade in Scotland, see page 794.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations :—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, ETC.

MAY 7.

Bailieborough.—Additions.—Alterations, additions and improvements to Court House, for Caven C.C. P. Reilly, secretary.

Batley.—Alterations.—To entrance and new macadam cartway, at Girls' Grammar School, for West Riding E.C. Education Department, County Hall, Wakefield.

Belfast.—Church.—In Stranmillis-rd., for Select Vestry, St. Bartholomew's Parish Church. W. D. R. Taggart, architect and Civil engineer, 2, Wellington-place. Dep. £1 1s.

Birkenhead.—Building.—New out-patients' department at General Hospital, for Committee. Edmund Kirby & Sons, architects, 5, Cook-st., Liverpool.

Broadway.—Conveniences.—In recreation ground, for Parish Council. W. L. Lissaman, architect. Dep. 10s. 6d.

Bushbury.—Premises.—Licensed premises at Low Hill, Bushbury, for W. Butler & Co., Ltd., of Springfield Brewery, Wolverhampton. H. Vale & Sons, chartered surveyors. Dep. £3 3s.

Chatburn.—Electricity Installation.—In chapel and school, also for painting and beautifying chapel, for Wesleyan Chapel Committee. H. Parkinson, Chatburn, near Clitheroe.

Croydon.—Houses.—Erecting of 64 (70 lettings) at Hermitage-rd. estate, Upper Norwood, for the C.B. B.E., Town Hall. Dep. £3 3s.

Croydon.—Houses.—Erection of 90 (98 lettings) at Mitcham-rd. estate, for the C.B. B.E., Town Hall Dep. £3 3s.

Ecclesfield.—Fencing.—Unclimbable iron fencing on site for secondary school, for West Riding E.C. Education Department, County Hall, Wakefield.

Edinburgh.—Painter Work.—At Hospital and at Convalescent House, Murrayfield, for Royal Infirmary Committee. Wm. S. Caw, Treasurer and Clerk.

Greenock.—Glazier Work.—For 40 two-apartment houses at Bow farm housing scheme, for T.C. A. Nimmo, T.C.

Guildford.—Reconstruction of Bookers Tower, Guildford Cemetery, for T.C. J. W. Hipwood, B.S.

*** Ilford.**—Painting and decoration.—Interior of the Seven Kings Library Buildings, for the B.C. H. Shaw, B.E. and S., Town Hall. Dep. £1 1s.

Leeds.—Foundations.—Excavations for and construction of ferro-concrete raft, foundations and ducts in connection with Kirkstall power station at Redcote Farm, Armley, for T.C. C. N. Hefford, manager, Electricity Dept., 1, Whitehall-rd. Dep. £1.

Lewisham.—Internal painting of the Lewisham Hospital, High-st., Lewisham, S.E.13, for the Lewisham Guardians. Guardians' Offices, 394, High-st. Dep. £3 3s.

Merioneth.—Wall.—1,300 cube yds. of sea wall, including incidental works, such as rock cutting, filling, drainage and roadmaking, at Aberamffra, approximately half-mile east of Barmouth, for C.C. C.S., Dolgelley.

Merioneth.—Wall.—Construction of about 1,300 cub. yds. of sea wall (which also retains the Main Road), including incidental works, such as rock-cutting, filling, drainage and roadmaking at Aberamffra, for C.C. C.S., Dolgelley.

Milford Haven.—House.—Electrical power house for U.D.C. A. F. Webb, L.R.I.B.A., & Son, architects, Tredegar-chambers, Blackwood, Mon. Dep. £3 3s.

Norwich.—Repairs and Materials.—For War Dept. Director of Army Contracts, Imperial House, Tothill-st., Westminster, S.W.1.

Reigate.—Houses.—Buckland, 8; Horley, 6; Merstham, 12, for R.D.C. District Surveyor, 48, High-st. Dep. £3 3s.

Seghill.—Painting.—Also decorating Seghill Working Men's Social Club. H. G. Towns, Secretary, 14, Barras-row, Seghill.

South Stoneham.—Houses.—18 semi-detached non-parlour type in Denzil-av., Netley, near Southampton, for R.D.C. W. R. Cowell, S., of "Fernlea," Hedge End, Hants. Dep. £2 2s.

Sudbury.—Cottages.—9 on Wents estate, for T.C. F. P. Earee, L.R.I.B.A., 36, Market Hill. Dep. £2 2s.

Teddington.—Painting.—External of public library, for U.D.C. E. Bostock, S.

Wroxall (Isle of Wight).—Buildings, etc.—For new buildings, alterations and repairs at Winstone Farm, for C.C. J. Dufton, County Clerk.

MAY 8.

Ben Rhydding.—Additions.—Also alterations required at Ben Rhydding Council School, for West Riding E.C. Education Department, County Hall, Wakefield.

Bradford.—Houses.—Eight combined shops and houses Lower Grange estate, for T.C. City Architect.

Bromley.—Repairs.—Also redecoration to cottages at housing estate at Bromley Common, for T.C. B.E

Crewe.—Sub-station.—New electricity sub-station and refuse store on Open Market ground, for T.C. E. G. Timbrell, B.E. and S. Dep. £2 2s.

Dornoch.—Additions.—Also alterations to Ospisdale House, near Dornoch. Horne and Murray, architects, Golspie.

*** Durham.**—Cow Byre, Dairy, etc.—Erection of, at Houghall Farm, for the C.C. Hays & Gray, F.R.I.B.A., architects, Wingate, County of Durham.

Glemsford.—Alterations.—At Council school, for West Suffolk E.C. A. Ainsworth Hunt, C.A., 51a, Abbeygate-st., Bury St. Edmund's.

Girvan.—Alterations.—Also adaptations at post office, for H.M.O.W. Architect, H.M. Office of Works, 122, George-st., Edinburgh. Dep. £1 1s.

Houghall.—Dairy.—Cow Byre, Dairy, etc., at Houghall Farm, for Durham County E.C. Hays and Gray, F.R.I.B.A., architects, Wingate, Co. Durham.

Leeds.—Painting.—Also Cleaning, at infectious diseases hospital, Seacroft, and tuberculosis sanatorium, Killingbeck, for T.C. T. Thornton, T.C.

Liverpool.—Roof.—New roof, etc., to portion of garage No. 2, Broadgreen-rd., for Corporation. Land Steward and Surveyor.

London.—Public Baths and Wash-houses.—In Weston-st., Bromley-by-Bow, E., for the Poplar B.C. Harley Heckford, B.S. Dep. £3 3s

Nottingham.—Telephone Exchange.—At Beeston, for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Ospisdale.—Alterations.—Also additions to Ospisdale House, near Dornoch, for Ospisdale Estate, Ltd. Horne & Murray, architects, Golspie.

Stockton-on-Tees.—Painting.—External of 100 houses at Blue Hall estate, Norton, for Housing Committee. B.E.

Swallownest.—Painting.— Internal and decorating South Rotherham and Kiveton-park District Isolation Hospital, for committee. A. H. Styring, Clerk, 6, North Church-st., Sheffield.

West Riding.—Electric Light.—Installation at Bramley and Wickersley new school, for E.C. Education Department, County Hall, Wakefield.

West Riding.—Installation.—Providing and fixing a low pressure hot water installation at Hirst Courtney and Temple Hirst New School, for County E.C. Education Department, County Hall, Wakefield.

MAY 9.

Atherstone.—Houses.—70, on Westwood housing site, for R.D.C. H. J. Coleby, E. and S. Dep. £3 3s.

Barnsley.—Residence.—In Dodworth-rd., for Mrs. E. A. Jebson. R. Goodworth, architect, 2, Eastgate.

Drumcondra.—Houses.—60, on site of Griffith-av., for Dublin Commercial Public Utility Society, Ltd. McDonnell, Dixon & Downes, architects, 20, Ely-place, Dublin.

Hendon.—Building.—One story building to provide further sanitary accommodation, conversion of a store room into a bathroom, construction of bay window to tramp attendant's quarters, and sundry minor works, for B.G. C. W. Wyles, clerk.

Kirkburton.—Painting.—External, of several buildings at Storthes Hall Mental Hospital, Kirkburton, near Huddersfield, for West Riding Mental Hospitals Board. W. E. H. Burton, Architect and Engineer, Mental Hospital Board Offices, Wakefield.

Littlehampton.—Shelters.—Two shelters to be placed on sites on Parade, for U.D.C. S.

London.—Alterations.—Also extensions to electric lighting at South Eastern Ambulance Station, New Cross, for M.A.B. T. Cooper, Engineer-in-Chief. Dep. £1.

London.—Cleaning, painting and repair works: (1) Mead Works, Fulham; (2) Eastern Ambulance Station, Homerton; (3) Escape Bridge, Tooting Bec., for M.A.B. Office of the Board, Embankment, E.C.4. Dep. £1 in respect of each work

London and Kent.—Verandahs: (1) to Eastern Hospital, Homerton-grove, E.9; (2) to Infirmary at White Oak, Swanley, Kent, for the M.A.B. Office of the Board, Victoria Embankment, E.C.4. Dep. £1 in respect of each work.

Northumberland.—Post Office.—At Wallsend, for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Oldham.—Demolition.—Of Brook Mills, in Honeywell-lane, for C.B. B.E. and S.

Rosslynlee.—Painting.—Outside woodwork and ironwork of Asylum buildings, including tradesmen's workshops, laundry, and power station, at Asylum, for Midlothian and Peebles Board of Control. A. Murray Hardie, architect, Rosslynlee Asylum.

Widnes.—Conversion.—Of closet accommodation connected with 28 houses, for T.C. P. T. Grove, T.C.

MAY 10.

Birmingham.—Telephone Exchange.—At Harborne, for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Garioch.—Repairs.—To church, manse and offices at (1) Chapel of Garioch, (2) Culsalmond, (3) Insch, (4) Leslie, for Church of Scotland Presbytery of Garioch. G. B. Mitchell, architect, 1, West Craibstone-st., Aberdeen.

Saunderscourt.—House.—For Irish Land Commission. J. T. Drennan, secretary, Dublin. Dep. £1.

*** Windlesham.**—Houses.—Fourteen non-parlour type for the U.D.C. Cyril Gray, S., Council Offices, Bagshot. Dep. £2 2s.

MAY 11.

*** Birkenhead.**—Houses.—Erection of 191 non-parlour and 17 parlour-type, Town-lane, Higher Bebington, for the C.B. R. W. Johnston, B.E., Town Hall, Birkenhead. Dep. £2 2s.

Cookstown.—School.—New technical school, for Regional E.C. M'Carthy & Lilburn, quantity surveyors, Scottish Provident Buildings, Belfast. Dep. £1 1s.

Dublin.—Roofing.—Re-roofing in timber, felt and glass, engine-shed, Grand Canal dock, near Westland-row, for Gt. Southern Rlys. C. E. Riley, secretary, Kingsbridge Station, Dublin. Dep. £1 1s.

St. Pancras.—Builders' Work.—Extensions to Highgate Electricity Sub-Station, for the B.C. Electricity Offices, 57, Pratt-street, N.W.1. Dep. £1.

Stapleford.—Houses.—26 non-parlour, on Cliffe-hill housing site, for R.D.C. G. C. Hardy, architect, 11, Church-st. Dep. £2 2s.

MAY 12.

Aylesbury.—Painting.—External, etc., to 20 cottages at Stoke Mandeville and 4 cottages at Chearsley, for R.D.C. Taylor & White, A.R.I.B.A., architects, 7, Bourbon-st.

Dawdon.—Pavilion.—In recreation grounds. M. R. Balmer, 16, Ilchester-st., Dawdon, Seaham Harbour.

Dorking.—Extensions.—To refuse destructor, for U.D.C. S. S. Gettings, S.

East Rainton.—Homes.—Five aged mine workers' homes at East Rainton, near Houghton-le-Spring. J. Adair, 19, The Avenue, Durham.

Halifax.—Electric Light.—Installation at Sanatorium, Green-lane, Shelf, for C.B. B.E., Crossley-st. Dep. £1 1s.

Heanor.—Houses.—32 non-parlour type on Site No. 2, Old Burnt House-rd. allotments, for U.D.C. R. Archer, housing architect. Dep. £1 1s.

Manea.—Redecorating.—Chapel, etc., for trustees of Primitive Methodist Chapel. G. W. Lambert, secretary to Trustees

MAY 14.

Aston-on-Clun (Salop).—Enlargement.—Parish room. Trustees, Aston House, Aston-on-Clun.

Belfast.—Fencing.—220 feet of corrugated iron fencing and one 10 ft. gate, off Ridgeway-st., for C.B. City S.

*** Grays, Essex.**—Showroom. — Electric fittings, showroom in Maidstone-rd., for the U.D.C. Hatten & Asplin, clerks, 59, High-st., Grays. Dep. £2 2s.

Hertford.—Decoration.—Internal decoration, etc., of 50 houses on Stanstead-rd housing estate at Foxholes-av., Page-rd., and Admiral-st., for T.C. B.S.

*** Lewisham.**—Extension.—Of the Central Library, High-st., Lewisham, for the Metro. B.C. B.S., Town Hall, Catford, S.E.6. Dep. £2 2s.

Liverpool.—Alterations.—To Stone House, Yew Tree-rd., Calderstones, for T.C. Land Steward and Surveyor. Dep. £2 2s.

Llanrwst.—House.—New minister's house, for Trustees of Bethel C.M. Chapel, Melin-y-Coed, Llanrwst. Hugh Hughes, Ty'n-y-Caeau, Llanrwst.

*** Orsett.**—Hospital Buildings.—New female ward and maternity block at the Poor Law Institution, Orsett, near Grays, Essex, for the Guardians. Edward Fincham, A.R.I.B.A., 4, Orsett-rd., Grays. Dep. £1 1s.

St. Pancras. — Superstructure. — For block of dwellings at Ossulston-st., for the L.C.C. Architect to the Council, The County Hall (Room No. 3), Westminster Bridge, S.E.1. Dep. £2.

MAY 15.

Glasgow.—Houses.—Two workmen's houses at Bellefield Sanatorium, for T.C. D. Stenhouse, T.C.

Loughborough.—Head Post Office: erection of, at Loughborough, for the Commissioners H.M.O.W. Contracts Branch, King Charles-street, S.W.1. Dep. £1 1s.

Manchester.—Alterations.—Also additions to Burnage Municipal School, Burnage, for E.C. P. M. Heath, T.C. Dep. £2 2s.

Manchester.—School. — Erection of School-lane Municipal Central School, Didsbury, for E.C. Education Offices, Deansgate. Dep. £2 2s.

Newcastle-upon-Tyne.—Houses.—375 brick houses on Two Ball Lonnen estate, for T.C. Housing Architect, 18, Cloth Market. Dep. £2 2s.

MAY 16.

Irlam.—Building.—Police Station, for Lancashire C.C. Stephen Wilkinson, F.R.I.B.A., C.A., 16, Ribblesdale-place, Preston. Dep. £2.

London.—Telephone Exchange: at Kentish Town, N.W., for the Commissioners H.M.O.W. Contracts Branch, King Charles-street, S.W.1. Dep. £1 1s.

MAY 17.

Bootle.—Houses.—30 in Park-lane and Orrell-rd., for C.B. B.E. and S. Dep. £2 2s.

Leagrave and Limbury.—Additions.—To Club House, Marsh-rd., Leagrave, for British Legion Club. F. E. Allen, hon. secretary.

MAY 19.

*** Cannock.**—County Mining College.—Erection of, for the Staffordshire E.C. Director of Education, County Education Offices, Stafford. Dep. £5 5s.

Paddington.—Constructional and Reinforced Concrete Work.—Improvement, Edgware-road, junction with Harrow-road, and underground conveniences, for the Metro. B.C. B.E. and Surveyor's Office, Town Hall. Dep. £1 1s. to Borough Treasurer.

MAY 21.

Edinburgh.—Alterations.—Also additions to Broughton Secondary School, for E.C. J. Stewart, Executive Officer.

*** London.**—Maternity and Child Welfare Centre. —At Leage-st., Finsbury, E.C.1, for the Metro. B.C. of Finsbury: T. M. Deacon, Son and Addiscott, Quantity Surveyors, Cecil Chambers, 76, Strand, W.C.2. Dep. £2 2s.

London.—Dwellings.—Erection of, at East Hill estate, Wandsworth, and at China-walk area, Lambeth, for the L.C.C. Architect to the Council, County Hall (Room No. 3), Westminster Bridge, S.E.1. Dep. £2 in respect of each work.

Sevenoaks.—Buildings.—For (*a*) at Council's depot, Gordon-rd., new mortuary and extensive alterations and additions to the existing fire station, and (*b*) at Holly Bush-lane recreation ground, a new bowling green pavilion, for U.D.C. S. Dep. £2 2s.

✱**York.**—Houses.—18 parlour-type and 32 non-parlour-type, adjoining Bad Bargain-lane, York, for the Corporation. F. W. Spurr, City Engineer, Guildhall, York. Dep. £2 2s.

MAY 22.

✱ **Sherborne.**—Adaptation and extension of "Camelot House," Sherborne, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

✱**Uckfield.**—Houses.—12 non-parlour type in Selby-rd., Uckfield and New-rd., Ridgewood, respectively, for the U.D.C. A. Hollis, S., Mountfield Lodge, New Town, Uckfield Dep. £1 1s.

MAY 23.

✱ **Ireland.**—Cottages.—66, for ex-Servicemen in various districts for the Govt. of Northern Ireland. 15, Donegall-square West, Belfast (Room 35). Dep. £1 in respect of each group.

MAY 24.

Dungannon.—School.—School at Lisferty, County Tyrone, for E.C. Architect, Court House, Lisburn. Dep. £2 2s.

Gillingham.—Building.—Drill Hall, miniature range, administrative block in north wing, and permanent staff quarters in south wing, at Headquarters, for Territorial Army Association of Dorset. F. T. Maltby, L.R.I.B.A., Chartered Architect, Dorchester. Dep. £3 3s.

MAY 25.

Cork.—Houses.—152, at Turner's Cross housing site, for C.B. Chillingworth and Levie, architects, 11, South Mall. Dep. £1.

MAY 26.

✱**Winchester.**—Classrooms.—Erection of 2 at Drayton Council school for 80 places, for the County of Southampton. A. L. Roberts, C.A., The Castle, Winchester. Dep. £1 1s. by cheque, payable to the "Hants County Council," and crossed "Lloyds Bank, Ltd., Winchester."

MAY 30.

✱ **London.**—Cowshed.—Erection of, at Harrow Lodge, Hornchurch, Essex, for the Shoreditch Bd. of Guardians. Kemsleys, Broad-st. House, E.C.2 Dep. £3.

JUNE 4.

✱ **Aldershot.**—Grandstand.—To seat 1,000 to 1,200 in the Recreation Ground, High-st., Aldershot, for the B.C. B.E.'s Office, Municipal Buildings, Aldershot.

NO DATE.

Batley.—Store.—New departmental store on site with frontage to Leeds and Wakefield-rd., West Ardsley, for Co-operative Society, Ltd. Hustler & Taylor, architects, Ropergate, Pontefract.

Brackley.—Bungalow.—J. Paterson, Abbey House, Syresham, Brackley.

Caernarvon.—Building Work.—At Galltysil Isolation Hospital, Caernarvon, for Caernarvonshire C.C. T. Owen, C.S. Dep. £3 3s.

Caernarvon.—Building.—For (a) conversion of Old Prison buildings into County Offices, and (b) erection of infant clinic centre in Town of Caernarvon, for Caernarvonshire C.C. T. Owen, C.S. Dep. £5 5s.

Dolgelley.—Hospital.—Cottage hospital at Dolgelley, North and Padmore, architects, Llanfairfechan, North Wales.

Lancashire.—Extensions.—To Hindley and Abram Grammar school, for E.C. S. Wilkinson, F.R.I.B.A., C.A., 16, Ribblesdale-place, Preston. Dep. £2.

Leeds.—Alterations.—To Wesley Chapel, Meadow-lane. Mitchell & Sons, architects and surveyors, 9, Upper Fountaine-st., Albion-st.

Macclesfield. — Extensions. — To Infirmary. P. Wright, architect, 27, King Edward-st. Dep. £2 2s.

Mirfield.—Store.—In Old Bank-rd., for Perseverance Co-operative Society. Hustler & Taylor, architects, Ropergate, Pontefract.

Mossley.—Shop.—In Lees-rd., for Mossley Industrial Co-operative Society, Ltd. Architects' Department of the Co-operative Wholesale Society, Ltd., 1, Balloon-st., Manchester. Dep. £1 1s.

Oldham.—Building.—X-ray department, etc., at Boundary Park Hospital, for B.G. C. T. Taylor, Roberts and Bowman, architects, 10, Clegg-st.

MATERIALS, ETC.

MAY 4.

Dublin.—Steel Reinforcement Material.—For T.C. City Architect, Exchange-buildings, Lord Edward-st.

MAY 7.

Guiseley.—Road Materials.—For U.D.C. T. C. Slack, S.

Sefton.—Road Materials.—For R.D.C. F. Pool, S., Park-lane, Netherton, near Liverpool.

MAY 8.

Richmond.—Lime, etc.—For Main Sewerage Board. W. Fairley, Engineer to Board, West Hall-rd., Kew-gardens, Surrey.

MAY 9.

Huddersfield.—Fittings, etc.—Water-closet fittings, common bricks, lead water piping, earthenware sanitary goods, manhole stones, and stone covers, iron manhole plates, and other materials, for C.B. W.C. Conversion Officer, 18, Ramsden-st.

Manchester.—Granite Edging.—For T.C. City Engineer.

MAY 10.

Fleetwood.—Granite Chippings.—300 tons, for U.D.C. E. and S.

MAY 14.

Staines.—Kerbing.—15,000 yds. of kerbing, for R.D.C. D. C. Fidler. E. and S.

MAY 30.

Ceylon.—Extensions.—Cast iron pipes for Galle Corporation. Consulting Engineer, Galle Waterworks, c/o Glenfield and Kennedy, Ltd., 39, Victoria-st., S.W.1.

ENGINEERING, IRON AND STEEL.

MAY 7.

Portadown.—Steelwork.—For fabrication, delivery and erection of steel framework in connection with reconstruction of Shambles, William-st., for U.D.C. R. Ferguson and S. McIlveen, architects, 36, Scottish Provident-buildings, Belfast.

MAY 8.

Maldon.—Water Supply.—For (1) supply of 1,548 lin. yds. of 3-in., and 1,155 lin. yds. of 4-in. diameter cast-iron pipes; and (2) excavation, laying, jointing of above pipes with other works, for R.D.C. Wm. Almond, E.

MAY 10.

Johannesburg.—Bridge Work.—Structural bridge work for Smith-st. Bridge, Durban; Potgieter-st. Bridge, Pretoria, additional set of stairs, Witbank footbridge, for South African Railways and Harbours. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Reference A.X. 6145.)

Lochaber.—Reconstruction of bridge over the River Lochy. Sir E. Owen Williams, K.B.E., 5, St. George's-rd., Westminster, S.W.1. Dep. £5 5s.

MAY 11.

Bedford.—Water Supply.—At Bromham, for R.D.C. W. G. Daniels, clerk. Dep. £2 2s.

Belfast.—Steelwork.—Delivery and erection of steelwork at the Law Courts, for the Commissioners of H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

MAY 12.

Liverpool.—Steelwork.—For new abattoirs, for T.C. Land Steward and Surveyor.

Yeovil.—Water Supply.—140 tons of 5-in. and 6-in. cast-iron water main, and 2 tons of special castings; also for supply of sluice valves, air valves, reflux valves and hydrants and laying 1,217 yds. of 5-in. and 2,447 yds. of 6-in. cast-iron main, for R.D.C. A. J. Martin, 108, St. George's-sq., Westminster, S.W.1. Dep. £2 2s.

MAY 14.

Carlisle.—Footbridge.—Steel plate girder footbridge, approximately 189 ft. long and 7 ft. wide, over L.M. and S. Rly. near Maryport Cottages, for T.C. Percy Dalton, A.R.I.B.A., City E.

Glasgow.—Bridge.—Over L. and N.E. Rly. (Glasgow and Airdrie Line) at Barrachnie, for T.C. D. A. Donald, engineer, 271, Alexandra-parade. Dep. £3 3s

Wallasey.—Repairs.—34 tons mild steel lattice girders and flange plates, 27 tons mild steel built-up brackets, 7 tons mild steel bent-plate cramps, and scaling, cleaning and painting about 90 existing lattice girders, on New Brighton Promenade Pier, for C.B. L. St. G. Wilkinson, M.Sc., B.E.

MAY 16.

Burma.—Steelwork.—580.5 tons of structural steelwork in well curbs, etc., for bridge pier foundations, for Rly. Co. W. Home, managing director, 199, Gresham House, Old Broad-st., London, E.C.2.

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MAY 17.

San Salvador. — Waterworks. — For Salvador Government. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Reference A.X. 6209.)

MAY 21.

Newton Abbot.—Drainage.—Quay-terr. and Quay-rd. sewer and Little Lemon sewer, for U.D.C. C.D. White, S. Dep. £2 2s.

MAY 24.

Adwick-le-Street.—Sewage disposal, for U.D.C. F. Allen, clerk. Dep. £3.

MAY 28.

East Grinstead. — Sewerage. — Construction of sewage disposal works, comprising detritus, settling and storm water standby tanks, filter beds and humus tanks, together with 2 ejector stations, laying of several miles of 15-in., 12-in., 9-in. and 6-in. sewers, and construction of about 230 manholes and other appurtenant works, at Worth, for R.D.C. C. Turton, E. and S., 18, Station-rd. Dep. £5 5s.

JUNE 1.

Johannesburg.—Structural Steelwork.—For double-story cargo-shed, Table Bay Harbour, for South African Rlys. and Harbours. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 6144.)

JUNE 5.

Alexandria (Egypt).—Bridge.—Metallic swing bridge over Mahmudia Canal, for H.M. Consul-General. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X.6030.)

ROAD, SEWERAGE, AND WATER WORKS.

MAY 7.

Cheadle.—Drainage.—Certain works of deep drainage required at cemetery, for U.D.C. S.

Guiseley.—Making up.—Of footpaths, kerbing and surfacing carriageway with tarmacadam, of Hawk-hill-av., approximately 300 yds. in length, for U.D.C. T. C. Slack. Dep. £1 1s.

Kingsbury.—Tarspraying.—Certain roads, for U.D.C. R. C. N. Newport, E. and S.

Manchester.—Paving.—Widening, paving (concrete), and completing Moston-lane, Moston, between Shawford-rd. and Moss-view; sewering, draining, paving (concrete), flagging (artificial flags), etc., Bendall-st., Openshaw, from Wayne-st. to the north-westerly end of st.; sewering, draining, paving (concrete), kerbing, etc., passage behind 2-22, Bute-st., and adjoining 71, and the Manchester Corporation E.C.'s schools, Peacock-st., Gorton, and draining, paving (concrete), and kerbing, etc., passage behind 27-49, Grosvenor rd., and 92-106, Manley-rd., Withington, for T.C. P. M. Heath, T.C. Dep. £1 1s.

Merton and Morden.—Making-up.—Footpath leading from Erridge-rd. to St. Mary's-rd., work including tarpaving, surface-water drainage, etc., for U.D.C. G. Jerram, E. and S. Dep. £1 1s.

Wakefield.—Drainage. — Construction of about 2,500 yds. of plain and reinforced concrete pipe sewers (21-in. to 51-in. diam.), manholes, syphon, outfall, and other incidental works in Dewsbury-rd. and in Snapethorpe and Thornes districts, for T.C. City S. Dep. £5.

MAY 8.

Barnes.—Improvements.—In Sheen-lane, from Christchurch-rd. to Sheen-gate, Richmond-park, for U.D.C. F. P. Kindell, E. and S. Dep. £2 2s.

Barnes.—Making-up.—Of Verdun-rd., Boileau-rd. (Parts 1 and 2), Washington-rd., Kilmington-rd., Wayside, for U.D.C. F. P. Kindell, E. and S. Dep. £2 2s.

Barnes. — Road.—Reinforced road foundation works, etc., Upper Richmond-rd., for U.D.C. F. P. Kindell, E. and S. Dep. £2 2s.

Luddenden Foot.—Sewer.—560 yds. of 9-in. and 6-in. piped sewer, with necessary manholes, from Blackwood Hall to Albion-terr., for U.D.C. S.

Southgate.—Making-up.—Of (a) Sherbrook-gardens, (b) Myddelton-gardens, (c) Queen's-av., for U.D.C. R. Phillips, S.

MAY 9.

Guildford.—Strengthening.—Reinforced concrete structure in connection with subsidence in Denmark-rd., for T.C. J. W. Hipwood, B.E.

Hale.—Sewer.—In Wicker-lane, Hale Barns, for U.D.C. C. P. Higginbotham, S. Dep. £1 1s.

Haywards Heath.—Making-up.—Of Eastern-rd., about 241 lin. yds.; Park-rd., about 221 lin. yds.; Warden-av., about 502 lin. yds., for U.D.C. Geo. Plummer, E. and S.

Littlehampton.—Roadway.—Reinforced concrete roadway of approximate length of 1,200 yds. between the Schools, Wick, and the cemetery, for U.D.C. S. Dep. £1 1s.

Twickenham.—Improvements.—Forming, levelling, paving, kerbing, and making good Meadway, for T.C. F. W. Pearce, B.E. and S. Dep. £1 1s.

Various Places.—Road Work.—At hospitals at Tooting, Dartford and Abbots Langley, for the M.A.B. Office of the Board, Victoria Embankment, E.C.4. Dep. £1 in respect of each work.

MAY 10.

Beeston.—Making-up.—Paving, kerbing, metalling, lighting and otherwise completing Clifford-av. (part) and Wollaton-crescent (part), for U.D.C. S. Dep. £2 2s.

Leeds.—Paving.—Flagging, kerbing and tar-paving of footpaths and tar macadamising carriageways in Talbot-rd., West Park-rd., Stanley-drive, Wooler-st., Dow-st., Well Garth, Ash-rd., for T.C. E. W. Cockerlyne, Highways Engineer. Dep. £1 1s.

Plympton St. Mary.—Street.—Also sewers and water mains at Council's housing site, for R.D.C. E. Dep. £1 1s.

MAY 12.

Louth.—Road.— Strengthening and resurfacing in water-bound macadam following stretches of road: between Castleview-lane, Carlingford and approach road to Ballyoonan Pier, near Omeath; Dundalk to Ardee, between Darver-lane and Duffy's-cross, for C.C. C. McAlester, secretary, L.C.C., Court House, Dundalk. Dep. £2 2s. each.

Stretford. — Paving. — Various highways, for U.D.C. E. Worrall, S. Dep. £2 2s.

MAY 14.

Beckenham.—Widening.—For (a) widening junction of Upper Elmers End-rd. and South Eden Park-rd.; and (b) widening north side of Upper Elmers End-rd. by Eden Park Farm, for U.D.C. H. Storr Best, S. Dep. £2 each.

Nuneaton.—Road.—Road works, including excavation, filling, new pitched foundations, sewers and surface-water drains and other works incidental thereto, on Atteborough housing site, for T.C. R. C. Moon, B.S. Dep. £2 2s.

Perth.—Drains.—Forming pitched channel about 250 yds. in length, and laying drains, etc., for Perth Royal Infirmary Directors. J. & A. Leslie & Reid, C.E., 72a, George-st., Edinburgh. Dep. £1.

Portstewart.—Resurfacing.—Widening (part) and resurfacing with bituminous macadam the Strand-rd., for U.D.C. D. R. M'Ilreavy, Town S.

West Riding.—For *(a)* surface dressing of back drives; *(b)* tar painting, repair and surfacing of asphalt paths and courts at the Menston Mental Hospital, near Leeds, for West Riding Mental Hospitals Board. W. E. H. Burton, architect and engineer, West Riding Mental Hospitals Board Offices, Wakefield.

MAY 15.

Kingston-upon-Thames.—Roads.—Also sewers on housing estate, for T.C. B.S. Dep. £1 1s.

MAY 16.

Tyrone.—Roads.—For (a) reconstruction in reinforced concrete of 4,992 sq. yds. of route A 29 in the town of Coalisland, and (b) reconstruction in reinforced concrete of 6,300 sq. yds. of route A32 (Omagh Railway Station 2 miles away), for C.C. J. W. Leebody, C.S.

MAY 17.

Gloucester.—Resurfacing.—With asphalt, total of approximately 19,000 sq. yds., for T.C. City S., 19, Eastgate-st.

Kingston-upon-Hull.—Paving.—Cable conduits, paving, etc., for T.C. H. Bell, City Electrical Engineer and Manager. Dep. £1 1s.

MAY 18.

Manchester.—Drainage.—Main drainage work No. 18 (new sewer from Rochdale-rd. along Factory-lane and Waterloo-st., to Todd's-place, Lower Crumpsall), for Corporation. City E. Dep. £5 5s.

MAY 19.

Chellaston.—Levelling.—Fencing, path making, levelling, building store, etc.), in connection with new burial ground, for P.C. C. Treadgold, S., 312, Normanton-rd., Derby.

MAY 22.

London.—Remaking.—Of roadways with tar macadam, at Bethnal Green Children's Homes, High-rd., Leytonstone, E.11, for Bethnal Green B.G. C. Faulkner Jones, clerk, Guardians' Administrative Offices, Bishop's-rd., E.2. Dep. £1.

MAY 29.

Totnes.—Main.—4-in. water main, from Stray-park to Lake Mead, for T.C. J. L. Davies, B.E. Dep. £2.

Auction Sales, Tenders, etc.

May 8.

***Leigh-on-Sea.**—H. W. Smith & Moon, in conjunction with W. H. Taylor & Son, at 1369, London-rd., Leigh, *re* S. W. Powell, Ltd. In voluntary liquidation. By order of the liquidators. Valuable woodworking machinery. Auctioneers, S. & M., 6, St. James-st., W.C.1; T. and S., 44, Alexandra-st., Southend

MAY 9.

***Sussex.**—Berryman & Gilkes. By order of the Court, Chancery Division. Mr. Justice Tomlin—1924 C. 4905. In the matter *re* Church Crookham Hamlet, Ltd., on the Sussex coast, about 60 acres of grassland, property, etc., between Hastings and Rye. Auctioneers, 2, Hans-rd., London, S.W.3.

MAY 10.

London.—Frank G. Bourn, Ltd., at 62a, Aldersgate-st., E.C.1, stock of 50 tons of gum. Auctioneers, as above.

London.—Frank G. Bourn, Ltd., at 62a, Aldersgate-st., E.C.1, salvage stock of dry colours. Auctioneers, as above.

***Regent's Park.**—Veryard & Yates. Without reserve. Park-rd., Regent's Park (close to Baker-st. Station). Building materials. Auctioneers, 395, Norwood-rd., S.E.27.

Uxbridge.—Constable & Maude will sell, by direction of Mr. George Rose, in 28 lots, at the Chequers Hotel, Uxbridge (unless previously sold privately), portions of the Harefield-place estate, Middlesex, also mansion, in all about 700 acres. Auctioneers, 2, Mount-st., Grosvenor-sq., W.1.

MAY 16.

***Lincs.**—Earl & Lawrence, in conjunction with Hall & Palmer, at Syston Hall, near Grantham, Lincs. Fixtures, fittings and builders' material, also remaining fabric of the mansion. Auctioneers, E. & L., Sleaford, Lincs, H. & P., Watton, Norfolk.

MAY 22.

*** Chiswick.**—Tyser, Greenwood and Co., Estate Sale Rooms, 386, High-rd., Chiswick, W.4., East Sheen Freehold Building Site, "St. Annes," 459, Upper Richmond-rd. Auctioneers, 386, High-rd., Chiswick.

Islington.—Henry Butcher, Hall & Co., at Brewery-road, Caledonian-road. Contents of Works of Varnish and Colour Manufacturers, comprising plant and machinery, stock and office furniture. Auctioneers, 63 & 64, Chancery-lane, W.C.2.

MAY 31.

***Ramsgate.**—Cockett, Henderson & Co. By order of the mortgagees. With vacant possession. St. Lawrence, nr. Ramsgate. Freehold residential building estate known as "Nether Court." Auctioneers, Broadstairs, and 110, Jermyn-st., S.W.1.

JUNE 1.

***Windsor.**—Knight, Frank & Rutley. By direction of the Council of the Imperial Service College Trust and with the consent of the Board of Education, at the Town Hall, Windsor (unless previously disposed of privately), 20 acres of freehold building land forming outlying portions of the Imperial Service Estate. Auctioneers, 20, Hanover-sq., W.1.

JUNE 5.

***London.**—Hampton & Sons, at St. James' Estate Rooms, 20, St. James'-sq., S.W.1 (unless previously sold), freehold building land, about 50 acres, at Horley, Surrey. Auctioneers, as above.

Public Appointments.

MAY 7.

Brighton.—Engineering and Surveying Assistants, Assistant Building Inspectors and Town Planning Assistants required by the C.B. David Edwards, B.E. and S., Town Hall.

MAY 8.

Southall-Norwood.—Assistant Building Inspector required by the U.D.C. J. B. Thomson, B.E. and S. Stamped addressed foolscap envelope.

MAY 9.

***Dover.**—Clerk of Works required by the B.E. Maison Dieu House, Dover.

MAY 10.

Swansea.—Assistant Quantity Surveyor on the temporary staff of the Borough Architect's Dept. H. L. Lang-Coath, T.C., Guildhall.

MAY 12.

London.—Head of the Architectural, Bdg. and Sur. Dept., whole time or part time. W. M. Macbeth, Clerk to the Governors, Northern Polytechnic, Holloway, N.7.

*** Northern Ireland.**—Temporary Architectural Assistant required in the Drawing Office of the Works Branch of the Ministry of Finance by the Govt. of Northern Ireland. Sec. (Establishment Division), Min. of Finance, 15, Donegall-sq., West Belfast.

MAY 14.

***Brentford and Chiswick.**—Assistant Building Inspector required for the U.D.C. Edward Willis, E. and S., Town Hall, Chiswick, W.4.

***Brentford and Chiswick.**—Temporary Architectural Assistant in the Engineer and Surveyor's Dept., required by the U.D.C. Edward Willis, E. and S., Town Hall, Chiswick, W.4.

***Chelmsford.**—Junior Architectural Assistant on temporary staff in the Architect's Dept. required by the Essex C.C. Jno. Stuart, F.R.I.B.A., C.A., Springfield Old Court, Chelmsford.

Dewsbury.—Architectural Assistant, Temporary Architectural Assistant and Temporary Engineering Assistant required by the Corporation. H. Dearden, B.E.

*** Gloucester.**—Assistant Clerk of Works required in the Works Dept. Clerk of Works, County Mental Hospital, Gloucester.

***Kingston-upon-Thames.**—Building Inspector in the Borough Surveyor's Dept. required by the Corporation. B.S., Clattern Lodge, Kingston-upon-Thames, endorsed "Building Inspector."

MAY 20.

South Africa.—Senior Quan. Sur., Measurer and Expert Workers-up required by the High Commissioners. The Sec., Union of South Africa, Trafalgar-square, W.C.2.

MAY 24.

***London.**—Forthcoming Examination.—Male Cartographers in the Hydrographic Dept. of the Admiralty. Particulars from the Secretary, Civil Service Commission, Burlington-gardens, W.1.

NO DATE.

***Doncaster.**—Clerks of Works required for erection of the new hospital buildings, Royal Infirmary, Doncaster. W. A. Pite, Son & Fairweather, 12, Carteret-st., Westminster, S.W.1.

*** Gold Coast.**—Foreman of Works (6) required by the Govt. of the Gold Coast, for the Public Works Dept., for a tour of 18 months' service. Apply by letter, Crown Agents for the Colonies, 4, Millbank, S.W., quoting M/632.

*** Hong Kong.**—Assistant Storekeeper required by the Govt. of Hong Kong for the Public Works Dept., for 3 years' service. Apply at once by letter Crown Agents for the Colonies, 4, Millbank, S.W.1, quoting M/533.

*** Huddersfield.**—Chief Lecturer in Building, to commence duties November 1, required by the C.E. L. G. Thornber, Dir. of Edn., Education Offices, Huddersfield.

*** Tanganyika.**—Accountant required by the Govt. of Tanganyika Territory, for the Public Works Dept., for a tour of 20 to 30 months' service. Apply at once by letter, Crown Agents for the Colonies, 4, Millbank, S.W.1, quoting M/638.

PROPOSED NEW BUILDINGS AND OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council, U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board. Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

Ashton-under-Lyne.—Scheme is in hand for restoration of the Hartshead Pike monument at £500. J. Lindsay Grant, A.R.I.B.A., of Manchester Municipal School of Art, is honorary architect.

Barnsley.—Plans been approved for proposed rebuilding of Hope Inn, Cliffe Bridge, Monk Bretton, for Messrs. Clarkson's Old Brewery (Barnsley), Ltd. Architects, Dyson, Cawthorne & Coles, 10, Regent-st., Barnsley.

Beddington and Wallington.—U.D.C passed plans:—4 houses, in pairs, The Chase, for A. Elliott; 36 houses, comprised of three blocks of eight and two blocks of six, The Chase, for G. Ferguson; church, near Miller's Orchard, London-rd., for Rev. J. Bevan.

Bedford.—Electricity power station extension will cost £60,000.

Bexhill.—T.C. sanctioned plans for 84 detached houses in Gunter's-lane, for Skinner Bros.

Biggleswade.—£2,335 is to be borrowed for houses by R.D.C. at Mogerhanger.

Bishops Stortford.—U.D.C. approved plan by A. Clark for 2 shops and dwelling-houses in London-rd.

Blackburn.—Extensions are contemplated at Witton Congregational Church, Thompson-st., Blackburn. Plans by G. R. Clayton, A.R.I.B.A., 25, Richmond-Terr.

Bolton.—Edwards Bros., 25 lock-up garages, Springfield Garage, Bradford-st.; Leigh Bros. Ltd., 12 houses, Crompton-way, and 10 houses, Highfield-rd.; T. P. Smith, 9 houses, Lever Edge-lane; T. Cross and Co., Ltd., for chemic and ash mixing rooms, Mortfield Bleachworks; W. Tong and Sons, Ltd., alteration to premises, Bridgewater Arms, Manchester-rd.; Alderman J. F. Steele, Alms houses, Mackenzie-st.

Bradford.—Plans for extensions to Technical College at £45,000 and to College of Art at £8,500 been approved by Bradford Technical Education sub-committee.

Bradford.—Corporation propose to carry out reconstruction at St. James's Market abattoirs at £15,000.

Breightmet.—Land been acquired off Bury-rd. at rear of Co-operative Stores, for Labour Club House.

Bridlington.—Plans deposited by Kitson, Parish and Ledgard, architects, Leeds, for alterations and additions to Black Lion, High-st., for J. Tetley and Sons, Ltd., been approved by T.C.

Brighton.—B.S. is to convert the present office and cells and the old mortuary at Preston Police Station so as to provide additional accommodation, at £340 15s.—Plans passed:—25 houses, Baden-rd., Braybons, Ltd.; 5 garages, Hollingdean-ter., Jas. Morley, junr.; 6 houses, Kimberley-rd., G. Ayling.

Chard.—W. Wyndham, of Orchard Wyndham, Williton, has given £3,500 for reinstating and providing additional accommodation, etc., to Chard school.

Colne.—Corporation have purchased site for 32 houses in Laneshawbridge district. Scheme is to cost £12,800 and application is to be made to M.H. for sanction to borrow same amount for work.

Conisborough.—M.H. sanctioned U.D.C. to erect by direct labour 28 houses.

Cork.—Local Government Inspector held inquiry into application made by Cork Borough Council for provisional order to purchase compulsorily certain lands at Evergreen for purpose of housing scheme.

Coulsdon and Purley.—U.D.C. received M.H. sanction to borrowing £532 for erection of public conveniences in Rotary Field, Brighton-rd.—Plans passed:—E. H. Easton, 6 semi-detached houses, St. Andrew's-rd., Coulsdon, A. T. Bate, 8 detached houses, Woodcote Valley-rd., Smitham Bottom-lane, Purley; Mrs. A. T. Chapman, 12 semi-detached houses, The Vale, Coulsdon; H. C. Doddrell, 2 detached houses, Coulsdon-rise, Coulsdon; Hopkinson & Sons, 10 detached houses, Marlpit-lane, Coulsdon; H. Hemmings, 16 semi-detached houses, St. Andrew's-rd., Coulsdon.

Coventry.—Markets Committee recommend that certain property in Smithford-st. be purchased for markets purposes at £7,800.—Housing Committee also recommend that two sites be acquired for purpose of housing at £15,925 and £9,000 respectively.

Croydon.—T.C. recommend, subject to sanction of Electricity Commissioners, purchase of freehold sites for sub-stations in Canterbury-rd. and Gladstone-rd. B.S. is to prepare plans for extensions

See also our List of Contracts, Competitions, etc.

to sewage works, and application is to be made to M.H. for sanction to borrow £45,750 for same.—Tenders are to be invited for extensions to Frith-rd. conveniences.—M.H. sanctioned borrowing by Council of £89,145 for various road and sewer works.—Rees & Partners, 44, Park-lane, 7 houses and garages, Fitzjames-av.; Fawcett & Co., Montrose, Crescent-lane, S.W.4., 2 houses and garages, Ross-rd.; L. Davey & Hart, Upper Green, Mitcham, 17 houses, Roseccourt-rd.; P. Richardson, 136, Addiscombe-rd., 5 bungalows, Orchard-av.; J. A. Dartnall, 11, Dowgate-st., E.C., 13 shops and 21 garages, London-rd., between Wharfdale-gardens; Browett, Taylor, Robertson & Morgan, 3-4, Lincoln's Inn Fields, W.C.2. 4 houses, Malden-av.; Burgess & Pavey, 44, Kempshop-rd., S.W.16, 8 houses, Grecian-crescent.

Dagenham.—Licensing justices for Becontree Division of Essex approved plans submitted by Mr. Sidney Lamb for extensions and alteration of premises of Church Elm, at Dagenham.

Dartford.—M.A.B. recommend that approval be given to substitution of a concrete slab wall with about 40 yds. iron fencing, etc., for existing fence between Southern Hospital and Darenth Training Colony estates at £910.

Didsbury.—T. R. Turner, 18, Withnell-rd., is to erect 22 houses at Homestead-crescent, Kingsway, Burnage.

Dolgelly.—Management Committee of Dolgelly and Barmouth District Cottage Hospital proposing to proceed with erection of new building. Architects, H. L. North, A.R.I.B.A., and P. M. Padmore, A.M.I.C.E., Llanfairfechan, N. Wales.

Doncaster.—Scheme for Wesleyan School chapel at Thorne Moorends to cost £3,000 been sanctioned. Architects, Wilburn & Atkinson, Exchange-buildings, Market-place.

Doncaster.—T.C. passed plans for 8 houses and garages in Town Moor-av., for T. Gledhill.

Eastbourne.—Vicar and wardens of All Saints' Church decided to rebuild edifice in Carlisle-rd. Plans by A. G. Fenning, F.R.I.B.A., St. John's Lodge, St. John's-rd., Eastbourne, and Mr. P. D. Stonham, F.R.I.B.A., Hadley House, Eastbourne.

Erith.—Port of London Authority is to build a new causeway.

Essex.—Plans have been passed by the Becontree Division of the Essex Licensing Justices for alterations or additions at Fir Trees, Hermon Hill; Brewery Tap, Barking; Plough, Wood-st., Walthamstow; Britannia, Wood-st., Walthamstow; and White Horse, High-rd., Chadwell Heath.

Farnborough.—Plans have been approved by P.C. for Salvation Army hall in Gladstone-rd.

Fleetwood.—County E.C. given formal approval to erection of schools. Plans by County Architect, Stephen Wilkinson, F.R.I.B.A., 16, Ribblesdale-place, Preston.

Grays.—Essex C.C. is erecting a £25,000 court house.

Greenford.—Amalgamated Wallpaper Mills, Ltd., 30-31, St. Swithin's-lane, E.C.4, bought site adjoining the Grand Junction Canal for new mill. The building and plant will cost £75,125 to build and equip. Architect is Mr. A. P. Lloyd, A.R.I.B.A., 71, Lincoln's Inn-fields, W.C.2. The quantity surveyor is Mr. W. H. Webber, F.S.I., 6, Hanover-square, W.1.

Guildford.—T.C. passed plans:—Alterations and additions to Headmaster's House, Archbishop Abbot's School, for Governors, Archbishop Abbot's School.

Harlington.—Staines R.D.C. approved lay-out plans for 24 houses, and the Surveyor is to obtain tenders.

Hounslow.—It will cost £3,000 to restore Holy Trinity Church.

Ilford.—T.C. passed plans:—W. J. Cearns, grand stand, Ilford Football Club, Ley-st.; A. H. Moore and Dartnall, 23 shops and dwellings, 1-23, Beehive-parade, Eastern-av.; T. F. Ingram, public house, Longbridge-rd.; Milbourne and Spyers, 8 houses, 1-15, New North-rd.; H. J. Haines, 5 houses, 27-35, Kilmartin-rd.; R. A. Linsell, additional lock-up garages, Brook-rd.; A. Smith and Son, 4 houses, 235-241, Beehive-lane; C. Fryatt, 8 houses, Nos. 1-15, Buxton-rd.; J. J. Mullenger, 3 houses, 26-28, Ethel-gdns., Tomswood Hill.

Ince.—U.D.C. are to apply to M.H. for sanction to a loan of £22,360 for proposed 54 houses on Chemical Fields site.

Isleworth.—Isleworth fire station is to be demolished and a new one built on Redlee estate.

Kingsbury.—It will cost £11,000 to enlarge Kingsbury school.

Kingston.—Council is to build 120 houses.

Shepperton.—An elementary Church school is to be built.

Letchworth.—Proposal to build new secondary school is under consideration by the Herts E.C. Plans have been prepared by Mr. Barry Parker, F.R.I.B.A., Norton-way, Letchworth.

Leyton.—T.C. passed plans:—J. A. Dartnall, 6 shops with dwelling accommodation over at 745, High-rd., Leytonstone; A. W. Jaggers and Sons, 3 houses at 17, 19, 21, Crawley-rd.; T. Cox, cold storage chamber and chopping room at 577, Lea Bridge-rd.; A. W. Jaggers and Sons, 5 houses, 82-90, Chesterfield-rd.

London.—L.C.C. recommend £6,930, submitted in respect of reconstruction of the fire brigade workshops.

London (Bermondsey).—Bermondsey Medical Mission Hospital states that over £6,500 been received in response to appeal for funds for new wards at top of existing dispensary.

London (Garshalton).—M.H. sanctioned proposal to provide lavatory accommodaiton for visitors and a playground and shelter for visitors' children at Queen Mary's Hospital for Children, for M.A.B.

London (Fulham).—M.H. approved nurses' new block at Western Hospital.—Also £5,216 in respect of foundation of new covered yard and improvements at Western Ambulance Station.

London (Lewisham).—L.C.C. recommend borrowing by B.C. of £6,465 for housing purposes.

London (Paddington).—M.H. forward sanction to £307 in connection with adaptation of drying horses at Paddington casual ward.

London (Southwark).—M.A.B. recommend, subject to sanction of M.H., approval be given to certain alterations in laundry at Southwark Casual Ward at £330.

London (Stepney).—B.C. recommend that proposal submitted by B.E. and S. for increased accommodation at maternity and child welfare centre on Vallance-rd. housing site be approved.

London (Stepney).—L.C.C. recommend borrowing by B.C. of £460 for housing purposes within the borough.

London (Tooting).—M.H. approved the proposal to erect laboratory at Tooting Bec Hospital, for M.A.B.

London (Woolwich).—B.C. recommend that application be made to M. of H. for consent to erection of 91 houses on land fronting Westhorne-av., north and south sides of Bexley Heath Railway.—Application is to be made to L.C.C. for sanction to borrow £13,600 for 30 houses on Council's housing estate at Eltham.—Plans passed:—C. & J. Barwell, Southwood-rd., Eltham, 12 houses and bungalow, Sidcup-rd., Eltham; J. B. Farrugia, 46, Thomas-st., Woolwich, 5 houses, Bercta-rd., Eltham; W. E. Wright, 61, Southend-rd., Eltham, 2 houses, Park View-rd., Eltham.

Maltley.—Plans for 32 U.D.C. houses in Heron's Field, Grange-lane, are to be submitted to M.H.

Manchester.—Peter Walker & Son, Warrington & Burton, Ltd., Dallam Brewery, Warrington, acquired site at Mosley-rd., Fallowfield, for hotel. Plans by Col. George Westcott, architect and surveyor, Game Cock-chambers, 13, Bridge-st.—Mauldeth, Ltd., builder, Mauldeth-rd., Levenshulme, proposing to erect 35 houses in Bournlea-av., off Mauldeth-rd. Plans by H. F. V. Newsome, Blue Boar-court, Manchester.—W. Meredith, builder, 19, Birchfields-rd., Rusholme, 27 houses on Birchfields-rd.—H. Freshney, builders, Willoughby House, Heaton Chapel, Stockport, 48 houses and new road. Plans by F. Fenn, L.R.I.B.A., architect, 1, North-parade, Parsonage.—A. C. S. Stephens, builders, Cotton-lane, 9 shops and houses and stores at Old Moat-lane and Yew Tree-rd.

Manchester.—Corporation Markets Committee accepted tender for extension of City Exhibition Hall.

Mansfield.—Following plans been approved by T.C.:—Shell-Mex, Ltd., petrol depot, garage and office, Sutton-rd.; G. R. Carr, 10 houses, Southwell-rd.; C. H. Hill, 6 houses, Beech-hill-av.; Governors of Brunts School, dining hall, etc., to Technical School, Woodhouse-rd.; Mansfield Victoria Working Men's Club, alteration and addition to Club, Princes-st.; H. James, 8 houses, Bottle-lane; Mansfield Hide and Skin Co., Ltd., 4 garages, Midworth-st.

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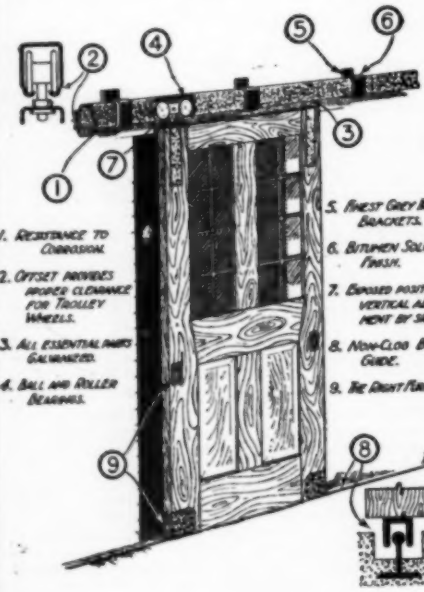
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Middlesbrough.—Plans for structural alterations to offices of Dorman, Long & Co., been approved by Plans Committee.

Mitcham.—U.D.C. passed plans:—Wates, Ltd., High-rd., Streatham, 6 houses, 6 shops, and 1 lock-up shop, Grove-rd.; H. Poulson, 6, Graham-av., 15 pairs of semi-detached houses, in Lavender-av.; A. & A. W. Bolton, 31, Ashbourne-rd., pair of houses.

Moira.—Under Irish Land Trust Sailors' and Soldiers' Housing Act, 4 houses are to be built.

Muston.—Site has been acquired on Carr-lane for erection of Institute. Col. H. R. Reasè, Muston Lodge, near Filey (president).

Newcastle.—Proposal to erect crematorium is being considered by Cemeteries Committee of Corporation.

Oldbury.—E.C. have instructed surveyor to prepare plans for school clinic.

Preston.—Plan of suggested improvements, including demolition of gallery at Theatre Royal, been agreed to by Watch Committee.—E.C. approved amended preliminary plan of proposed Ribbleton-av. junior elementary school to accommodate 300 children.—Board of Management of St. Joseph's Hospital, Mount-st., Preston, raising funds for children's ward and X-ray department to institution.

Rainford.—U.D.C. has approved two houses in Cross Pit-lane, and two in Ormskirk-rd., and one in Church-rd.

Riccall.—R.D.C. completed arrangements for sale of land which had formed part of Osgoodby housing site to Wm. Tune, of Osgoodby.

Rochdale.—Electricity Committee propose to erect sub-station in Baron-st.

Scarborough.—B.E. been instructed to submit plans and estimates of cost of raising height of sea wall and providing additional dressing accommodation at bathing-pool.

Sheffield.—Rev. H. C. Foster and parishioners of St. Oswald's Church, Millhouses, raising funds for erection of Parochial Hall. Plans by J. R. Wigfull, F.R.I.B.A., 14, Parade-chambers, Sheffield.—Governors of Sheffield University having scheme prepared for erection of building to make provision for new Mining Department. Plans by Gibbs, Flockton & Gibbs, FF.R.I.B.A., architects, 15, St. James'-row, Sheffield.

Sheffield.—New market to be erected behind Brightside and Carbrook Co-operative Stores in Exchange-st. by direct labour, under supervision of W. G. Davies, City Architect. Cost is estimated to be £45,793.

Sheffield.—T.C. passed plans:—6 houses, Airedale-rd, J. Reed; 8 houses, Truswell-rd., W. F. Gracie; 6 houses, Hutcliffe Wood-rd., A. J. Belton Ltd.; 4 houses, Bingham Park and Greystones Hall-rds., W. Malthouse, Ltd.; 7 houses, Dykes Hall-rd., G. M. Gill; 3 houses, Barnsley-rd., Oxspring Bros.; 2 houses, Abbey-lane, Simpson Bros.; 8 houses, Struan-rd., H. & E.E. Plant.

Sittingbourne.—A new hospital is to be erected.

Southampton.—Pirelli, Ltd., are to build a huge factory at Eastleigh, Hants. The company's architect is Mr. H. D. Searles Wood, F.R.I.B.A., Printers' Hall-chambers, Little Trinity-lane, E.C.4.

Southend-on-Sea.—Corporation approved proposal to erect a new bandstand at £18,000.

Southgate.—U.D.C. passed plans:—F. F. Tomlin, 8 houses with garages, North Circular-rd.; G. W. S. Ingram, 6 houses, two with garages, Bourne-hill.

Stockton Heath.—R.D.C. accepted offer of Sandy-lane site for housing site.

Strabane.—16 houses at Bridge-st., at £5,000, are to be erected by U.D.C.

Thorpe Bay.—A £25,000 church is to be built.

Twickenham.—A £40,000 school is to be built at Fifth Cross-rd.

Tynemouth.—Surveyor is to prepare plans for tenements at Toll-st. and Percy-sq., for T.C.

Upton.—South Elmsall E.C. has approved plans for elementary Council school to accommodate 910 children.

Warrington.—Plans been passed for 3 combined houses and shops, Mill-lane, for J. T. Barton.

Watford.—R.D.C. approved plans for house in Hamper Mill-lane, for A. E. Hermen.

Windlesham.—Surveyor's plans for houses here and at Lightwater have been adopted.

Withington.—A. Hartley & Son, builders, Mauldeth-rd., proposes to erect 380 houses and shops at School-grove, Alan-rd., Green lane and Parrs Wood-rd., Withington. Plans by Mellor, Speakman & Hall, architects and surveyors, 1, Cooper-st., Manchester.

Woodford.—A £500 strong room is to be made in Council offices.

Wolverhampton.—T.C. agreed to sell to G.W. Railway Co., 7,746 sq. yds. of Faulkland-st., area, enabling company to extend Herbert-st. goods station.

Yeovil.—Housing has been sanctioned by R.D.C. at West Chinnock.

FIRES.

Nuneaton.—Damage to extent of £20,000 to £30,000 been caused by fire at hosiery factory of Pool, Lorrimer & Tabberer, Ltd., Meadow-st.

Thetford.—Lynford Hall, Norfolk, Elizabethan building, been destroyed by fire. Hall was family home of Captain F. J. O. Montague.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

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	£ s. d.		£ s. d.
Flettons, at King's Cross	2 12 3	Best Blue Pressed Staffs	9 5 0
Do., grooved for Plaster	2 14 3	Do. Bullnose	9 15 0
Do., Bullnose	3 6 3	Blue Wire Cuts	7 5 0
Best Stourbridge Fire Brick:—			
2½ in.	8 11 0	3 in.	10 3 0

GLAZED BRICKS—

Best White Ivory, and Salt Glazed Stretchers	21 0 0	D'ble Str'tch'rs	29 10 0
		D'ble Headers	26 10 0
		One Side and two Ends	30 10 0
Headers	20 10 0	Two Sides and one End	31 10 0
Quoins, Bullnose and 4½ in. Flats	27 10 0	Splays and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white Other colours. Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.
Delivered London

	s. d.		s. d.
2 in. per yd. super.	1 11	3 in. per yd. super	2 9
2½ in " "	2 4	4 in. " "	3 6

	s. d.	
Thames Ballast	10 6	per yd.
Pit Sand	13 9	" "
Thames Sand	14 6	" "
Best Washed Sand	14 6	" "
¾ in. Shingle for Ferro-Concrete	12 9	" "
¾ in.	14 0	" "
¾ in. Broken Brick	11 6	" "
Pan Breeze	8 0	" "

delivered 2 miles radius Paddington.

Per ton delivered in London area in full van loads.

Best Portland Cement. British.
Standard Specification. Test £2 13 0 to £2 15 0
46s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 10 0
Super Cement (Waterproof)	4 3 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Sirapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 37s. 0d. per ton at rly. dp.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 2 10

BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station, per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. per ft. cube 3 1½
Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.

PORTLAND STONE.—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 4½
Do. do. delivered on road wagons at above stations, per ft. cube 4 5½
White basebed, 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

HOPTON-WOOD STONE—
Delivered at any Goods Station, London. s. d.
Random blocks rom 10 ft. and over P. ft. cb. 17 0
Sawn two sides " 27 0
Sawn three or four sides " 32 0

YORK STONE, BLUE—*Robin Hood Quality*.
Delivered at any Goods Station, London.
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... Per ft. super 5 6
6 in. rubbed two sides, ditto ..... " 6 0
3 in. sawn two sides slabs (random sizes) " 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) " 1 6½
1½ in. to 2 in. ditto, ditto ..... " 1 3½

HARD YORK—
Delivered at any Goods Station, London.
Scappled random blocks ..... Per ft. cube 6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) ..... Per ft. super 5 1½
6 in. rubbed two sides, ditto ..... " 6 1½
4 in. sawn two sides slabs (random sizes) " 2 1½
3 in. ditto ditto " 2 10
2 in. self-faced random flags .. Per yd. super. 8 8

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s 6d; Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£30 0	3 × 6	£21 0
4 × 9	26 0	3 × 11	25 0
4 × 8	25 0	2 × 11	26 0
4 × 7	23 0	3 × 9	24 0
3 × 8	22 0	2½ × 9	24 0
3 × 7	22 0	3 × 4½	21 0
2½ × 7	21 0	3 × 4	21 0

PLANED BOARDS.

1 × 11	£30 0	1 × 9	£28 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	18/-	1¼	30/-
⅝	21/-	1½	34/-
1	24/-		

TONGUED AND GROOVED FLOORING

Inches.	per sq.
1	24/-
1¼	30/-
1½	34/-

MATCHING (BEST).

Inches.	per sq.
¾	16/6
⅞	19/-
1	24/-

Ins. BATTENS.	s. d.
¾ × 2 ....] er 100 ft.	2 6

SAWN LATHS.	s. d.
Per bundle	2 6

1" AND UP THICK.

	£ s. d.		£ s. d.
Dry Austrian Wainscot, per ft. cube	0 16 0	to	0 18 0
Dry American and/or Japanese Figured Oak, ft. cube	0 14 0	to	0 15 0
Dry American and/or Japanese Plain Oak, ft. cube	0 10 0	to	0 13 0
Dry sq. edged Honduras Mahogany, ft. cube	0 15 0	to	0 18 0
Dry Log cut Honduras Mahogany, ft. cube	0 16 0	to	1 1 0
Dry Cuba Mahogany, ft. cube	1 1 0	to	1 10 0
Dry Teak, ft. cube	0 13 0	to	0 15 0
Dry American Whitewood, ft. cube	0 10 0	to	0 14 0
Best Scotch Glue, per cwt.	4 10 0	to	—
Liquid Glue, per cwt.	4 7 0	to	5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000.

	£ s. d.		£ s. d.
24 by 12	32 18 4	18 by 10	18 12 11
22 by 12	29 17 11	18 by 9	16 9 2
22 by 11	27 14 2	16 by 10	15 12 6
20 by 12	26 5 0	16 by 8	12 3 9
20 by 10	22 10 0		

TILES.

Delivered at London rate stations in full truckloads of not less than 6 tons. Per 1,000. f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 7 6
ditto hand-made ditto	5 17 6
Ornamental ditto	6 2 6
Hip and valley tiles (per dozen) { Hand-made	0 9 6
Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
" Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅝ in. to ¼ in.	10 15 0
⅜ in.	11 0 0	½ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Tubes. Wrought Mild Steel.	Tubes. Genuine Staffs. Iron.	Fittings. ½ in. and under.	Fittings. Over ½ in.	Flanges. ½ in. and under.	Flanges. Over ½ in.
	%	%	%	%	%	%
Gas	67½	50	42½	45	52½	55
Water	63½	46½	37½	40	47½	50
Steam	60	42½	32½	35	42½	45
Galv. gas	55	37½	32½	35	42½	45
Galv. water	50	32½	27½	30	37½	40
Galv. steam	45	27½	22½	25	32½	35

C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3½	11½d.	3½d.
3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.

O.G. GUTTERS.

3 in.	1/8	1/4½	3½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

RAIN-WATER PIPES, &c.

per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/10½	1/3	1/9½
2½ in. "	2/0½	1/4½	2/1½
3 in. "	2/6	1/9	2/7½
3½ in. "	2/11½	2/0½	3/0½
4 in. "	3/5	2/6½	3/8½

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Pipe. s. d.	Bends, angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6 fts. plain	3 3	2 4½	2 10
2½ in. "	3 9	2 7½	3 7
3 in. "	4 6	2 10	4 2½
3½ in. "	4 11½	3 7	4 11½
4 in. "	5 5½	4 0½	5 9

L.C.C. COATED DRAIN PIPES—London Prices ex Works

	Pipe, angles, stock angles s	Bends, stock Branches. d.	s. d.	Pipe, angles, stock angles s	Bends, stock Branches. d.	s. d.
3 in. per yd. in 9ft. lengths	4	4	5 1	8	0½	
4 in. " "	6	2	5 8	10	0	
5 in. " "	7	2	10 10	17	1	
6 in. " "	8	6	13 2	21	9	

Gasken for jointing, 38/6 per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common bars	13 0 0	to	14 10 0
Staffordshire Crown Bars—Good merchant quality	14 5 0	to	15 15 0
Staffordshire Marked Bars	16 5 0	..	17 5 0
Mild Steel Bars	10 0 0	..	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0	..	11 0 0
Hoop iron, basis price	12 0 0	..	13 0 0
" Galvanised	27 0 0	..	28 0 0
Soft Steel Sheets, Black—			
Ordinary sizes, to 20 g.	13 5 0	..	14 5 0
" " " 24 g.	14 5 0	..	15 5 0
" " " 26 g.	16 5 0	..	17 5 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	..	16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0	..	17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0	..	20 10 0
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 0 0	..	19 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	18 10 0	..	19 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	21 10 0	..	22 10 0
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0	..	23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0	..	26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0	..	26 10 0
Cut Nails, 3 in. to 6 in.	19 0 0		
(Under 3 in. usual trade extras.)			

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	28 10 0
Pipe in coils	29 0 0
Soil pipe	32 0 0
Compo pipe	33 0 0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes. 5s. cwt. extra.

Oil lead, ex London area, at Mills ..... per ton 18 15 0

COPPER.

	s. d.
Seamless Copper tubes (basis) ..... per lb.	1 1
Strong sheet "	1 0
Thin "	1 1
Copper nails "	2 3
Copper wire "	2 4

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.
35/-	56/-	98/-	162/- 228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- "

TIN.—English Ingots, 3/1 per lb. SOLDER.—Plumber's 1/3, Tinmen's 1/6, Blowpipe 1/7 per lb.

PAINTS, &c.

			s. d.
Raw Linseed Oil,	in pipes	per gallon	0 2 11
" " "	in barrels ..	"	0 3 1
" " "	in drums ..	"	0 3 3
Boiled " "	in barrels ..	"	0 3 3
" " "	in drums ..	"	0 3 6
Turpentine	in barrels	"	0 3 11½
"	in drums (10 galls.)	"	0 4 1½
Genuine Ground English White Lead, per ton			51 0 0

(In not less than 5-cwt. casks.)

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

PAINTS, &c. (*contd.*)

		£	s.	d.
Genuine White Lead Paint—"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganawyte," "Polacco," "J." Brand, and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered	69	10	0
Red Lead, Dry (packages extra)..	per ton	39	10	0
Best Linseed Oil Putty	per cwt.	0	15	0
Filicol	,,	0	15	6
Size. XD quality	ftkn.	0	3	6

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per ft.		Per ft.
15 oz. fourths ..	2½d.	32 oz. fourths	6½d.
15 ,, thirds ..	3½d.	32 ,, thirds	8½d.
21 ,, fourths ..	3½d.	Obscured Sheet, 15 oz.	3½d.
21 ,, thirds ..	4½d.	,, ,, 21 ,,	4½d.
26 ,, fourths	4½d.	Fluted 15oz.6½d.,21oz.	9d.
26 ,, thirds ..	6½d.	En'lled 15 oz.4½d.,21oz.6½d.	

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per ft.
⅛ Rolled plate	4½d.
3/16 Rough rolled	5½d.
¼ Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	8½d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	6
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak	ditto	0	19	0
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	2	0
Best ditto	ditto	1	12	0
Best Japan Gold Size		0	12	6
Best Black Japan		0	10	6
Oak and Mahogany Stain (water)		0	12	0
Brunswick Black		0	7	6
Berlin Black		0	14	6
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebine		0	9	0
Cuirass Black Enamel		0	7	0

NEW BUILDINGS IN SCOTLAND

Edinburgh.—Water Supply.—The Water Committee of Edinburgh Town Council has resolved to recommend the duplication of the Tarth section of the Talla syphons, this being part of the scheme for promoting the introduction of an additional water supply from the Talla Reservoir into the city. The estimated cost is £12,500.

Leith.—School.—Plans for the new building for Leith Academy have been approved by the Edinburgh Dean of Guild Court. The school will be the largest erected by the Edinburgh Education Authority for several years, and is to cost approximately £73,000, and will have accommodation for 875 pupils. The architects are Messrs. Reid & Forbes, 7, Ainslie-place, Edinburgh.

Dunfermline.—Hall.—The Carnegie Dunfermline Trustees have decided upon the erection of a concert-hall in Dunfermline.

Glasgow.—Housing.—The Glasgow Corporation Housing Committee recommended application to the Scottish Board of Health for permission to raise £2,100,000 for further housing schemes.

Greenock.—Houses.—Forty houses are to be erected at Bow Farm housing site for the Corporation.

Obituary.

The death has occurred, at his residence, 1, Winton-circus, Saltcoats, of Mr. Thomas Miller, builder, in his 90th year.

A Tour of the U.S.A.

In order to see what improvements and new ideas have been adopted on the other side since his last visit, Mr. Stanley Benham is starting for the United States on Saturday, May 5, and he is arranging to be shown over a number of the most recent kitchen installations in New York and Chicago. Mr. Benham expects to be back on June 12, and he has made full arrangements for all the matters which he had in hand to be carried on as usual, and any fresh inquiries will be dealt with in his absence in the usual manner.

BUILDING TRADE WAGES IN SCOTLAND.*

The following are the present rate of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons'‡ Bricklayers'‡ Plasterers'†
Aberdeen	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Airdrie	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Alexandria	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Arbroath	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/5½	1/1
Ayr	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2½
Bathgate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Coatbridge	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Dumbarton	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Dumfries	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/6½	1/2
Dundee	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	1/3
Dunfermline	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/7½	‡1/2½ †1/3–1/3½
Edinburgh	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	1/3½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/6½	1/7	1/6½	1/7	1/6½	1/6½	1/7	1/2
Glasgow	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Greenock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Hamilton	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Hawick	1/7	1/7	1/7	1/7–1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/2
Kilmarnock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Kirkcaldy	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3–1/3½
Kirkwall	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Leith	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	1/3½
Motherwell	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Perth	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3
Stirling	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Stirlingshire (Eastern District)	1/7½	1/9	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Wishaw	1/7½	1/7½	1/7½	1/9	1/7½	1/7½	1/8	‡1/2½ †1/3

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 788.

TRADE NEWS

Old-established Builders.

The firm of Messrs. Griggs and Son, of Westminster, is an example of an old-established family business which—following upon a tradition of energy, integrity and sound craftsmanship, founded by the late Mr. Alfred Griggs—is maintaining that tradition while setting up a fresh record for speed and promptness. The firm—which has been associated particularly with theatres and cinemas—has for its latest achievement Messrs. Bertie Crewe and E. A. Stone's new Piccadilly Theatre, which has been carried through to its completion in record time. The attractive, comfortable and cheerful appearance of the theatre on the first night—so favourably commented upon—was due in no small measure to Messrsr. Griggs, and is an achievement of which they may well be proud.

The Epsom Grandstand : Installation of Lifts.

Three "S.M.S." litts have been installed for general use at the new grand stand at Epsom. Those who have seats on the grand stand will be delighted to find that they can get to their places without the very considerable ordeal of climbing the large number of stairs. The Epsom Grand Stand Association is to be congratulated on the installation of what is generally conceded to be an adequate number of lifts for this stand. How thoroughly they have considered the convenience of the public is evidenced by the fact that all of the lifts are fitted with the same type of control gear as is fitted to His Majesty's lift. By means of this latest lift refinement, which is aptly named "Truelevel," the lifts invariably stop quite level with the alighting floor, thus avoiding the danger of stumbles. "S.M.S." lifts are the product of Messrs. Smith, Major & Stevens, Ltd., Bolan-street, S.W.11.

SERVICES OFFERED

(*Continued from page* cxvi.)

FIBROUS AND SOLID
PLASTERING
TOWN OR COUNTRY MEN AVAILABLE. **WANTED**
T. R. Rudd, John Tanner & Son (Ldn.) Ltd.
45, Horseferry Road, Westminster, S.W.1
Telephone: VICTORIA 5340.

FIRST-CLASS ARTIFICIAL MARBLE MAKER seeks sit.—T. RODGERS, 12, Deacon-road, Willesden.

PLASTERING wanted. Solid, Fibrous, or Granolithic. Refs. if required.—WM. CHARLES, 37, Suffolk-road, Ripple-road, Barking, Essex. 'Phone: Grangewood 1611.

PLASTERING wanted, Plain or Ornamental. Special attention given to alteration and cement work, breeze partitions, etc. — HALL, 10, Gordon-grove, Camberwell, S.E.5.

PLASTERING wanted, Fibre or Solid.—Apply, H. P., 362, Lillie-road, Fulham, S.W. 6.

J. & P. WRIGHT.
PLAIN AND ORNAMENTAL PLASTERERS.
GRANITE WORKERS.
32. GREAT ST. HELENS.
PHONE: AVENUE 3186 LONDON, E.C.3.
AND AT SANDHURST ROAD, CATFORD S.E.

FIBROUS PLASTER. — Gentleman with unique experience and highest qualifications desires change. Can obtain and carry out contracts of any size. Appointment esteemed.—Box 256, Office of "The Builder."

WANTED, a job. Can make luminous Concrete Tiles, Bricks, Glazed Tiles, Garden Furniture, etc. Sample to show.—Box 242, Office of "The Builder."

GRANOLITHIC FLOORS.—Have an experienced man to do your job. Keen prices.—Address, "GRANOLITHIC SPECIALIST," 49, Whitehall-gardens, Chingford.

GRANOLITHIC and CEMENT FLOORS wanted. Labour only. Lowest prices. Distance no object.—Address, GRANOLITHIC PAVIOR, 3, Denham Cotts., Montagu-road, Edmonton, N. 9.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	38	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	32	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	10
Axed in stocks	" "	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	6	0

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	1	0
Setting ordinary register grates and stoves	each	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4 15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	3
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	20	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors and partitions	" "	6	0
Do. trusses	" "	8	6

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	0	11
Centre for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.	—	44/6	53/-	60/6
Do. tongued and grooved	"	—	49/-	57/6	65/-
Do. matchings	"	45/-	51/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

		1¼"	1½"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail : average, 3 in. × 3 in.	" "	6	0
Add if ramped	" "	12	0
Add if wreathed	" "	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roof work	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	42	0
Do. Do. in flats	"	41	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	3
Copper nailing	" "	0	3

		½"	¾"	1"	1¼"	2"	4"
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	"	1/8	2/2	2/7	3/10	—	—
Do. soil	"	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"	—	—	—	14/7	19/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard. sup.	2	6
Do. Do. Sirapite	" "	2	9
Do. Do. Keen's	" "	4	0
Add saw lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	" "	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	8½
26-oz. Do.	" "	1	0
Obscured sheet	" "	1	1
⅛-in. rolled plate	" "	0	9
¼-in. rough rolled or cast plate	" "	0	10½
¼-in. wired cast plate	" "	1	4

PAINTER

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployments Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him next week not later than Tuesday evening.

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*

Acton.—Two classrooms at East Acton school, for the E.C.:—

*Arundel (Painter), Ltd., Bradford ... £547 6

Ashbourne.—Extensions to the male casual wards and provision of new disinfector station at the Institution, for the B.G.:—

*E. Buxton, Ashbourne

Ashton-under-Lyne.—Tramway shelter near Stamford Park, for the Tramways Committee:—

*W. McFarlane & Sons, Glasgow.

Ashton-under-Lyne.—Proposed works at the "Jolly Hatter" public-house, Denton, for Messrs. Chester's Brewery Co., Ltd. Mr. F. Riley, A.R.I.B.A., Messrs. Bramhall & Smith, architects, 4, Cannon-street, Manchester:—

General Contractor—
*T. Campion & Sons, Manchester.
Plasterer—
*A. & S. Wallace, Newton Heath.
Plumber—
*A. Longworth & Sons, Manchester.

Aylsham.—Cottages, for the R.D.C. Mr. E. R. Larner, surveyor:—

6 Aylsham (Yaxley's-lane)—
*A. G. Hackwood, Aylsham £2,040
2 Banningham—
*A. G. Hackwood, Aylsham 700
4 Swanton-Abbot—
*Hunger & Son, Wroxham 1,460
4 Wood-Dalling—
*J. Beckett, Hindolvestone 1,176
2 Burgh—
*G. W. Pegg, Aylsham 740
6 Marsham—
*Collison Bros., Reepham 2,137
8 Corpusty—
*Taylor & Son, Dereham 2,781
8 Hautbois-Magna—
*E. A. Turner, Stalham 2,760
12 Hindolvestone—
*J. Beckett, Hindolvestone 3,750

Banbury.—28 houses on the Easington estate, for the Corporation. Mr. Sidney Hultin, Borough Surveyor:—

*W. & A. Collison, Banbury £10,073

Broadstairs.—Various painting work, for the U.D.C. Mr. Howard Hurd, surveyor:—

*E. Dunn, Broadstairs £175 3 2

Bury.—Structural alterations to The Wylde, for conversion for use as Clinics for the C.B. Mr. J. Ainsworth Settle, Borough Engineer.

*Otto Elton, Bury.

Cardiff.—Alterations and additions at St. Peter's School, St. Peter's-street, for the Rev. M. Fennell. Messrs. F. R. Bates & Son, architects, 78, Bridge-street, Newport (Mon.):—

G. Griffiths & Co.	£9,098
J. H. Williams	8,973
W. Thomas & Co.	8,750
Morris & Biddle	8,620
S. C. Taverner	8,590
F. J. Thomas & Co.	8,515
D. Davies & Son	8,500
Watts & Gale	8,435
E. Turner & Sons	8,198
Tucker Bros.	8,162
Symonds & Son	8,087
Bradford & Davies	8,000
E. A. Bond & Co.	7,912
J. E. Evans & Co.	7,894
*Knox & Wells	7,887

(All of Cardiff.)

Carlisle.—Chapel at Wigton-road, to seat 560 people, for the Wesleyan Connexional Chapel Committee. Messrs. Brocklehurst & Co., architects, 10, Norfolk-street, Manchester:—

*John Laing & Co., Ltd., Carlisle.

Chesterfield.—For (*a*) 34 houses on St. Augustine's estate, and (*b*) 6 in Walton-drive, Boythorpe estate, for the T.C.:—

	each
(*a*)—	
*Jaques & Greeves, Doncaster	£327 10 8
(*b*)—	
*Bolsover Building Co., Ltd., Beighton	420 0 0

Chippenham.—20 houses at Corsham, and 10 at Box, also sewage disposal works in connection therewith, for the R.D.C. Messrs. Parker Pearson & Ross Hooper, architects and engineers, Dallas-chambers:—

*Syms & Son, Calne £9,200 10 6

Chislehurst.—Alterations and additions to "Holbrook," for Mr. A. E. Forster Brown. Mr. A. V. Heal, F.R.I.B.A., architect, 11, Gray's Inn-square, W.C.1:—

*E. H. Smith, Croydon.

Cirencester.—10 houses at South Cerney, for the R.D.C.:—

* Yells Bros., Fairford.

Clacton.—Additions to the conveniences in Cliff, near the Jetty, for the U.D.C. Mr. W. Aiston, surveyor:—

Lister-Mawby (Builders), Ltd., London	£900 0
Canler & Son, Clacton-on-Sea	835 0
Allen & Jeffers, Clacton-on-Sea	760 0
Evans & Co., Clacton-on-Sea	698 0
Field & Son, Clacton-on-Sea	697 0
*Gooday & Co., Colchester	614 1

Coventry.—Warehouse off Adderley-street, for Mr. T. Rogers. Mr. J. Arnold Parker, architect, King's Head-chambers:—

*F. W. Short, Coventry.

Croydon.—Sub-station building in Beulah-hill, for the C.B.:—

G. Poulton & Sons	£217 10
Grace & Marsh	199 0
Maides Bros.	195 0
E. J. Saunders	192 0
W. Akers & Co.	190 0
E. H. Smith	179 0
Truett & Steel	175 0
R. Mansell	170 0
*D. Waller	165 0

(All of Croydon.)

Croydon.—Sub-station building in Shirley-road, for the C.B.:—

Maides Bros.	198 0
E. H. Smith	193 0
E. J. Saunders	186 0
W. Akers & Co.	177 0
G. Poulton & Sons	173 0
D. Waller	173 0
Truett & Steel	170 0
Grace & Marsh	168 10
*R. Mansell	160 0

(All of Croydon.)

Croydon.—Building in Ashburton-park, for the C.B.:—

Maides Bros.	£200 0
E. H. Smith	193 0
E. J. Saunders	190 0
W. Akers & Co.	177 0
D. Waller	175 0
Truett & Steel	174 0
Grace & Marsh	173 10
G. Poulton & Sons	173 0
*R. Mansell	157 0

(All of Croydon.)

Croydon.—Sub-station building in Whitehorse-road, for the C.B.:—

Maides Bros.	£700 0
E. J. Saunders	685 0
Truett & Steel	665 0
W. Akers & Co.	660 0
E. H. Smith	645 0
Grace & Marsh	630 0
G. Poulton & Sons	622 15
D. Waller	606 0
*R. Mansell	597 0

(All of Croydon.)

Cwmgorse.—For 4 houses at Cwmgorse and 2 houses at Godrergraig (Ystalyfera). Mr. E. D. Jones, A.R.I.B.A., architect, Council Offices, Pontardawe:—

Cwmgorse—

W. G. Long & Son, Skewen	£1,876 0 0
Williams, Jones & Evans, Gwaun-cae-Gurwen	1,982 0 0
Lewis & Thomas, Ynysmudw, Pontardawe	2,121 2 6
Morgan Bros., Garnant	2,240 0 0
John Morgan, Neath	1,832 0 0

Godrergraig (Ystalyfera)—

D. J. Jones, Godrergraig	£975 0 0
Lewis & Thomas, Ynismudu	950 16 3
John Morgan, Meath	934 0 0
Hopkins & Evans, Ystalyfera	925 0 0
William Morgan, Ystradgynlais	890 0 0
*W. E. Jones, Ystalyfera	886 0 0

Dartford.—Erection of a boiler house and chimney shaft at Overy-street pumping station, for the M.W.B.:—

Construction of boiler house, foundations for chimney shaft and contingent works—

Fred. & T. Thorne	£1,502 11
Thomas & Edge	1,386 0
J. W. Ellingham, Ltd.	1,194 0
W. P. Banks, Ltd.	1,167 12
*Douglass Halse & Co., Ltd.	1,149 15

Construction of chimney shaft, boiler setting, flues and contingent works—

Fred. & T. Thorne	£1,441 13 0
Douglass Halse & Co., Ltd.	936 12 0
W. P. Banks, Ltd.	909 3 0
J. W. Ellingham, Ltd.	859 0 0
P. G. Richardson & Co. (Middlesbrough), Ltd.	792 15 0
E. F. Lynch	753 18 0
Chimneys, Ltd.	748 2 6
Poulton & Son	719 5 0
*W. Neil & Co.	572 5 0

Dartford.—Cleaning, painting and repairs, at the Southern Hospital, for the M.A.B.:—

L. Kazak & Co., Hampstead	£869
D. C. Bowyer, Belvedere	852
P. Miller & Son, Dartford	716
G. H. Dibblin, *Dartford	702
‡E. Proctor & Sons, Plumstead	586

Doncaster.—Infectious Diseases Hospital and Sanatorium adjoining Tickhill-road, Doncaster, for the Corporation. Messrs. Adshead, Topham & Adshead, architects, 14, St. Ann's-square, Manchester:—

*Swift Bros. & Haslam, Doncaster ... £55,794

Doncaster.—Temporary church at Langold:—

*Greenwoods (Manfield), Ltd. £1,247

Dover.—Elementary school with conveniences and contingent works at Astor-avenue, for the Corporation. Mr. Wm. Boulton Smith, Borough Engineer, Maison Dieu House:—

• Watkins & Ward, Dover	£13,074 0 0
G. H. Denne & Son, Deal	12,490 0 0
Rice & Son, Margate	12,289 0 0
Hayward & Paramor, Dover	11,993 0 0
Jenner & Son, Folkestone	11,800 0 0
Norman Smith & Son, Maidstone	11,489 5 6
Lewis & Sons (Dover), Ltd., Dover	11,483 0 0
Williams & Co., Margate	11,367 8 0
J. B. Sharman, Ltd., Ramsgate	11,200 0 0
*Hammond Boagey & Co., Canterbury	10,870 0 0

Make the most of a garage
by fitting
"OUT-OF-THE-WAY" AND "AROUND-THE-CORNER"
SLIDING DOOR FITTINGS
which save valuable space
Send for our new Catalogue S.D. 28.
GEO. W. KING, LTD.,
Windmill Lane, Stratford, London, E.15.
'Phones: Maryland 2703-4. 'Grams: "Agrikinger," London.

Illustration shows how doors slide flush with wall.

Dundee.—Reinforced concrete floors at the extension to boiler-house at Carlina Port generating station, for the Corporation. Mr. D. H. Bishop, general manager and engineer:—

*Yorkshire Hennibique Contracting Co., Dundee.

Earlstown.—Extensions to the works of the Sankey Sugar Co.:—

*J. Gerrard & Sons, Ltd., Swinton.

Steelwork—
*E. Wood & Co., Ltd., Manchester.

East Hagbourne.—New cemetery, including erection of about 640 yards of fencing of various kinds, a small cloakroom, tool shed, etc., the construction of a culvert, water service, etc., for the P.C. Mr. T. G. Faulkner, architect, Harwell-road, Didcot:—

Blake Bros., Didcot	£387 10 0
G. W. King, Lechlade	389 0 0
Ballard & Son, Abingdon	394 19 11
J. Chambers, Sutton Courtney	415 3 7
W. Gratrix & Son, Manchester	609 10 6
*G. Wimpey & Co., London	1,107 4 6

Grangemouth.—20 houses in George-street, for the T.C. Messrs. Wilson & Tait, architects and surveyors:—

Digger and Brick—	
*Ramsey Bros., Falkirk	£2,350 0 0
Joiner Work—	
*A. Williamson & Son, Grangemouth	1,675 2 7
Slater Work—	
*James Westland, Falkirk	367 14 9
Plaster and Cement—	
*David MacLair, Falkirk	923 3 0
Plumber Work—	
*Aitken Bros., Grangemouth	883 1 4

Grange-over-Sands.—For 8 houses, for the U.D.C. Mr. T. Huddleston, surveyor:—

Nelson & Sons, Grange	(a) £620 0
	(b) 600 0
Ramey Bros., Grange & Barrow	(a) 511 10
	(b) 449 0
*M. Blakemore, Grange,	
(parlour type)	495 0
(non-parlour type)	400 0

(Subject to M.H. approval.)

Hambledon.—Small brick and concrete pump house and the provision and laying of about 5½ miles of small cast-iron water mains and fittings in the Parishes of St. Martha's and Wonersh, for the R.D.C. Mr. P. G. Williams, engineer and surveyor. Quantities by the surveyor:—

*A. E. Farr, London £7,148 13 11

Holbeach.—Residence in Cemetery-road, for Mr. W. Curtis. Mr. F. B. Ward, L.R.I.B.A., architect, 8, South Brink, Wisbech. Quantities by the architect:—

H. Rands & Son, Ltd., Wisbech	£1,745 0
J. Langley & Son, Ltd., Boston	1,687 0
Campion & Penny, Ltd., Holbeach	1,601 10
R. & J. Eggleton, King's Lynn	1,556 10
J. Raisborough, Holbeach	1,539 0
* White & Holmes, Wisbech	1,487 15

Hounslow.—Seven shops in Bath-road. Messrs. Chase Gardiner & Co., architects:—

Hiscock	£11,986
Emmett	10,510
Phillips	10,121
Norris & Co.	9,887
Piercy	9,706
Horwood & Son	9,580
E. F. Scowen & Co.	9,350
Pateman	8,800

Irlam.—Central school at Station-road, for the Lancashire E.C. Mr. Wilkinson, F.R.I.B.A., 16, Ribblesdale-place, Preston:—

*Fearnley & Sons, Ltd., Manchester ... £13,110

Brickwork—
*Moston Brick & Bldg. Co., Ltd., Manchester.

Mason—
*A. Mackay, Oldham.

Plumber—
*F. Lewlas, Ltd., Pendleton.

Painter and Plasterer—
*C. Bell, Ltd., Manchester.

Keighley.—Manual training and science departments at Highfield School, for the E.C. Mr. A. P. Harrison, chartered architect, High Close:—

Mason—
*F. J. Rarstrict.

Plumbers—
*W. & J. Harrison, Ltd.

Joiner—
*J. Laycock.

Plasterer—
*W. Harris.

Slater—
*Wm. Thornton.

Painter—
*A. Tatham.

(All of Keighley.)

Leeds.—New branch bank at Kippax, near Leeds, for Barclay's Bank, Ltd. Messrs. Blenkinsopp & Scatchard, architects, Midland Bank-chambers, Bank-street, Castleford:—

*H. Roper, Ltd., Castleford.

Llangendeirne.—Manse, for the Trustees of the Bethel Chapel. Mr. A. L. Crabb, L.R.I.B.A., architect, Bank-chambers, Lammas-street, Carmarthen:—

*R. & F. Davies, Llandebie £600

Leicester.—Rebuilding of Holy Cross Priory Church. Messrs. Arthur Young & Allan D. Reid, architects, 5, Verulam-buildings, Gray's Inn, W.C.1:—

*F. J. Bradford, Leicester.

Little Hulton.—Houses on Worsley-road and Armitage-avenue, for the U.D.C.:—

48 Houses, Worsley-road—
*Joseph Chapman & Sons, Patricroft.

44 Houses, Armitage-avenue—
*Middleton & Co., Blackpool.

London.—Additions and alterations to the "Bolton Abbey" P.H., Lonsdale-road, W. Mr. A. E. Sewell, F.R.I.B.A., architect:—

Harris & Wardropp	£4,525
Nunn	4,455
G. Barker	4,407
H. Clogg, Ltd.	4,297
Dean & Son	4,114
*E. F. Scowen & Co.	4,059

London.—Additions to the Green Man Motor Garage, Muswell-hill, for Messrs. Carpenter & Goodboddy. Mr. G. A. Patterson, architect:—

Maitock & Parsons	£2,583
*E. F. Scowen & Co.	2,389

London.—New bakery, etc., in Hoxton-street, N., for Mr. Vooght. Mr. G. A. Patterson, architect:—

Mattock and Parsons	£1,473
Blow & Son	1,250
*E. F. Scowen & Co.	1,189

London.—14 parlour and 16 non-parlour type houses, for the Woolwich B.C.:—

Perrys (Ealing), Ltd., Ealing	£16,860
Rowley Bros., Ltd., Tottenham	16,408
R. Mansell, Croydon	16,370
Martin & Pearce, London	15,890
Nessen Petren Houses, Ltd., London	15,573
‡F. Ling & Sons, Erith	13,600
Friend & Bradshaw (J. Bradshaw, Proprietor), Newcastle-on-Tyne	12,978

London.—Cleaning, painting and repairs, at the Grove Hospital, Tooting, for the M.A.B.:—

W. Hussey	£2,850 0
E. Proctor & Sons	2,180 0
F. Kinnaird & Co., Ltd.	2,100 0
J. S. Fenn	2,096 18
Arthur H. Inns, Ltd.	2,050 0
Falkus (Public Works), Ltd.	2,050 0
L. Kazak & Co.	2,045 0
‡F. Firth, Shipley	2,018 0
W. E. Greenwood & Son, Ltd.	1,838 0

(All of London.)

London.—Cleaning, painting and repairs, at the South-Western Ambulance Station, for the M.A.B.:—

F. Kinnaird & Co., Ltd.	£235 0
Mond Staffordshire Refining Co., Ltd.	221 0
E. Proctor & Sons	195 0
‡Carrington, Thomas & Co., Ltd.	178 12

(All of London.)

London.—Cleaning, painting and repairs, at the Western Hospital, Fulham, for the M.A.B.:—

Campbell, Leigh & Co.	£2,523
J. S. Fenn	1,338
L. Kazak & Co.	949
‡E. Proctor & Sons	835

(All of London.)

London.—Cleaning, painting and repairs, at the Northern Hospital, Enfield, for the M.A.B.:—

W. Harris, Ltd.	£5,440 0 0
Lee Bros.	4,607 0 0
Falkus (Public Works), Ltd.	4,481 0 0
J. & R. Thompson (London), Ltd.	4,170 0 0
A. H. Inns, Ltd.	3,897 0 0
L. Kazak & Co.	3,880 0 0
J. S. Fenn	3,877 0 0
R. Woollaston & Co.	3,696 19 7
‡E. Proctor & Sons	3,445 0 0

(All of London.)

London.—Cleaning, painting and repairs, at the Fountain Mental Hospital, Wimbledon, for the M.A.B.:—

Mond Staffordshire Refining Co. Ltd.	£870 12 6
J. S. Fenn	866 0 0
F. Kinnaird & Co., Ltd.	850 0 0
B. Sparks & Co.	849 12 4
L. Kazak & Co.	799 0 0
E. Proctor & Sons	779 0 0
‡Arthur H. Inns, Ltd.	677 0 0

(All of London.)

London.—Cleaning, painting and repairs, at the North-Eastern Hospital, for the M.A.B.:—

‡E. Proctor & Sons, Plumstead	£860

London.—Cleaning, painting and repairs, at the South-Eastern Hospital, New Cross, for the M.A.B.:—

Falkus (Public Works), Ltd.	£2,690 0 0
P. Miller & Son	1,994 0 0
E. Proctor & Sons	1,860 0 0
Mond Staffordshire Refining Co. Ltd.	1,634 8 10
D. C. Bowyer	1,596 5 0
‡L. Kazak & Co.	1,593 0 0

(All of London.)

London.—Cleaning, painting and repairs, at the South-Western Hospital, Brixton, for the M.A.B.:—

D. C. Bowyer	£1,187 0 0
Mond Staffordshire Refining Co., Ltd.	1,174 2 9
E. Proctor & Sons	1,145 0 0
Carrington, Thomas & Co., Ltd.	1,044 9 0
‡F. Kinnaird & Co., Ltd.	780 0 0

(All of London.)

London.—Erection of the third block of dwellings, to be known as Clinton House, on Hughes-fields estate (Watergate-street area), Deptford, for the L.C.C.:—

Thomas D. Leng	£23,818
Hill & Gurr, Bromley	21,465
C. Miskin & Sons, Ltd., St. Albans	21,267
F. & A. Bayntun	21,043
Leslie & Co., Ltd.	21,028
C. P. Roberts & Co., Ltd.	20,836
R. Woollaston & Co.	20,818
Fred. & T. Thorne	20,657
R. J. Rowley	19,985
A. T. Rowley	19,985
Allen Fairhead & Sons, Ltd.	19,895
J. E. Billings & Co., Ltd.	19,665
Rowley Bros., Ltd.	19,553
*A. E. Symes, Ltd.	19,534

(All of London.)

(Subject to M. H. approval.)

London.—Supply, delivery and fixing of an external staircase to the Brunton Place Block and the provision of 3 small flights and landings in the Commercial-road Block of the buildings on the Brunton Wharf site, for the Stepney B.C.:—

*T. W. Palmer & Co. £220

London.—Cleaning, painting and repairs, at the North-Western Hospital, Hampstead, for the M.A.B.:—

E. Proctor & Sons, London	£1,076
‡L. Kazak & Co., London	1,039

London.—Cleaning, painting and repairs, at the Grove Hospital, Tooting, for the M.A.B.:—

W. E. Greenwood & Son, Ltd. £1,838

Luton.—New committee room, etc., for the T.C.:—

*H. C. Janes, Ltd. £596

Manchester.—Additions to the model milk dairy at Oak-street, Didsbury, for Messrs. A. Heald, Ltd.:—

*J. Jefferson, Didsbury, Manchester.

Manchester.—School in Beaver-road, Didsbury, for the E.C.:—

*Jonathan Partington, Ltd., Middleton Junction.

Manchester.—Alterations and additions to the "Friendship Inn," Buckley-street, for Messrs. Groves & Whitnalls, Ltd., Regent Bridge, Salford:—

*S. Cookson & Sons, Salford.

Manchester.—New "Kingsway" Theatre at the corner of Moseley-road and Kingsway, Levenshulme. Mr. John Knight, 5, Cross-street, Manchester:—

*P. Hamer, Swinton.

Manchester.—Motor garage showroom and office at Palatine-road and Danesmoor-road, Withington, for Mr. H. P. Tattersall. Messrs. Sandy Hill & Norris, FF.R.I.B.A., 9, Albert-square:—

*G. MacFarlane & Sons, Ltd., Manchester.

Manchester.—Branch premises in Wilbraham-road, Chorlton-cum-Hardy, for the Manchester & County Bank Ltd., Manchester:—

*J. F. Moore, Eccles.

Manchester.—Branch stores at Ayres-road, Old Trafford, for Manchester & Salford Equitable Co-operative Society, Ltd.:—

*P. Hodkinson, Ltd., Manchester.

Manchester.—Seven combined shops and houses and two lock-up shops and houses on a site at Kingsway and Greenbank-road, Levenshulme, and six shops and houses and two lock-up shops on a site at Kingsway and Mauldeth-road, Levenshulme, for Mr. J. Buckley, Timperley, Altrincham:—

*J. E. Armstrong & Co., Ltd., Manchester.

Manchester.—Workshop and warehouse at Palmerston-street, for Mr. R. Robotham. Mr. A. J. Hoyland, F.R.I.B.A., 32, King-street West, Manchester:—

*Riley & Sons, Ltd., Manchester.

Manchester.—Structural alterations to 130 Deansgate and Southgate, for the Halifax Building Society. Messrs. Hinchcliffe & Co., A.R.I.B.A., architects, Tower-chambers, Halifax:—

Brickwork—
*T. Campion & Son, Ardwick.

Joinery—
*Tinker & Young, Ltd., Newton Heath.

Electric Light—
*Hill & Co., Manchester.

Manchester.—Rebuilding of Gorton Brook Hotel in Belle View-street, West Gorton, for Stopfords Brewery Co. Messrs. Brameld & Smith, architects, 4, Cannon-street:—

General Contractor—
*T. Campion & Son.

Steelwork—
*Robinson & Kershaw, Ltd.

Plasterer—
*A. & S. Wallace.

Tiling—
*Decorative Tiling Co.

Seating—
*Lawn & Haworth, Ltd.

Slaters—
*W. Royle & Co., Ltd.

Embossed Glass—
*Harlang & Watson.

Terra-Cotta Glazed Bricks—
*Shaws, Ltd.

Plumber—
*A. Young.

(All of Manchester.)

Northallerton.—Widening, strengthening, resurfacing, etc., approximately 4½ miles of the Scarborough-Filey main road, for the C.C.:—

*T. Swann & Co., Ltd., Stockton-on-Tees £20,167 6 6

Portsmouth.—For building of "The Jutland" P.H., Eastbourne and Martin-roads junction, Copnor, for Messrs. Brickwood & Co., Ltd. Mr. J. W. Walmisley, F.R.I.B.A., architect and surveyor, King's-terrace, Southsea:—

*John Lay & Co., Portsmouth.

Prestwich.—Extensions to the works of Messrs. Cussons, Sons & Co., Ltd., Kersal Vale Works:—
Steelwork—

*Banister Walton & Co., Ltd., Manchester.

Reading.—Public house in Oxford-road, for Messrs. The South Berks Brewery Co., Ltd. Mr. Frederick G. Sainsbury, L.R.I.B.A., architect and surveyor, 154, Friar-street:—

J. H. Margetts & Son	£7,937
Geo. S. Lewis & Bros.	7,570
F. Newberry & Son	7,489
Wheeler Bros. (Reading), Ltd.	6,997
*Collier & Catley, Ltd.	6,996

(All of Reading.)

Redmell (Sussex).—Thatched cottage for Mr. N. H. J. Baird:—

*Ringmer Building Works.

Salford.—Installation of electric light in the John-street Council school, Pendleton, for the E.C.:—

C. Doherty & Co., Manchester £270

Salford.—Extension to the static transformer sub-station in Moor-lane, Kersal, for the City Council:—

*S. Megarity & Co., Ltd., Broughton ... £487

Salford.—Pump house at the Sewage Disposal Works, for the City Council:—

*Fearnley & Sons, Ltd., Salford £430

Sandbach.—Non-parlour type cottages on a site off Crewe-road, for the U.D.C. Mr. J. R. Price, architect:—

	Per cottage
Hy. Hilditch & Son, Winterley ...	£432 0 0
A. Wells, Haslington	432 0 0
Chas. Mellor, Elworth	430 0 0
Geo. Edwards Co., Ltd., Alsager	427 17 6

Scarborough.—Sunken shelter in Prince of Wales Terrace-gardens, for the T.C.:—

*F. Whitaker & Co., Ltd., Leeds £2,421

Stratford-on-Avon.—6 cottages at Loxley, for the R.D.C. Mr. G. E. Boshier, architect, Bridge-street. Quantities by the architect:—

Kennard & Son, Stratford-on-Avon ...	£1,998
England, Wellesbourne	1,875
Thorpe, Wellesbourne	1,875
*P. C. Harris, Stratford-on-Avon	1,854

(Subject to approval of M.H.)

Strood.—4 cottages in Longfield-road, Meopham, for the R.D.C. Mr. L. Randerson, surveyor. Quantities by the surveyor:—

*V. G. Dean, Upshire Works, Mid-Higham ..... per pair £647

Plus £12 per pair for porch.

Swansea.—Mining instruction (senior) centre at Ystradgynlais, Swansea Valley, for the Brecon-shire E.C.:—

D. Rees & Son, Ystalyfera	£2,184
J. E. Jones & Co., Pontllanfraith ...	1,911
W. Morgan, Ystradgynlais	1,899
G. H. Eastwood, Merthyr Tydfil ...	1,880
Thomas Bros., Pontardawe	1,874
W. Evans, Cefn Coed, Merthyr Tydfil	1,860
Evan Thomas & Sons, Neath	1,795
Waring, Cole & Waring, Neath ...	1,770
*Williams Bros., Pontardawe	1,760
T. D. Evans & Sons, Talgarth	1,700

Swindon.—Police station at Gorse Hill, for the Wilts Standing Joint Committee:—

G. W. King	£19,895 0
Pope Bros.	18,721 0
T. Nicholls, Ltd.	17,979 0
E. W. Beard	17.590 0
C. R. Palmer	17,304 0
R. J. Leighfield & Sons	17.092 13
Tydeman Bros.	16,900 0
L. Maslen & Sons	16,732 0
Building & Public Works Co., Ltd.	16.634 0
H. & C. Spackman	16,481 0
F. Rendell & Sons	16,475 0
A. & G. Blackwell	15,964 0
*Blackford & Son, Calne	15,495 0

Woodford.—Additions to the Hospital and Nurses' Home, at Woodford Jubilee Hospital, for the Committee. Messrs. Tooley & Foster, FF.R.I.B.A., architects, Buckhurst Hill, Essex:—

*J. Whiffin & Son, Ltd., Epping £3,939 10

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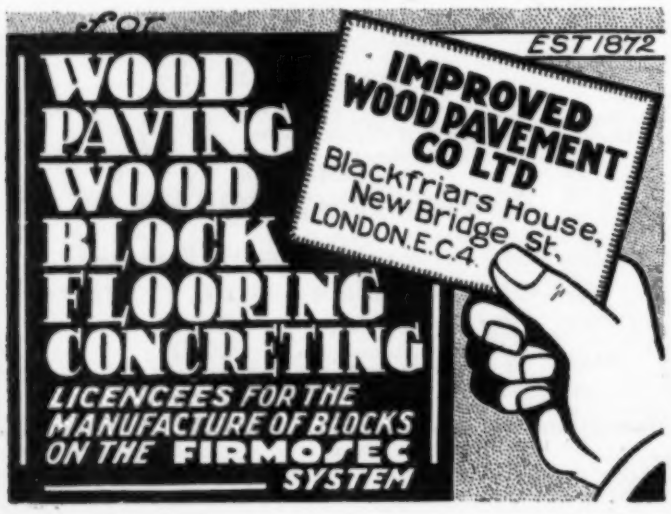

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